

The LEA[®] Family

Best Quality - Made in Germany

LEA[®] - Family

Standard

At home in the standard range

The economical and space-efficient solution for medium travel heights in the standard range. Reduced safety spaces available.

Type: MRL Rated Load: 450 – 1.000 kg
Travel height: 40 m Speed: 1.0 m/s

Comfort

The all-rounder

Superior technology for exacting requirements and more heavily frequented buildings.

Type: MRL Rated Load: 450 – 4.000 kg
Travel height: 100 m Speed: up to 2.5 m/s

Comfort Plus

A classic

Tried-and-tested elevator system with machine room and with geared or gearless drive.

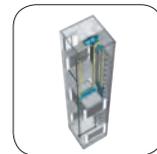
Type: MR Rated Load: 450 – 2.500 kg
Travel height: 135 m Speed: up to 2.5 m/s

Cargo

Robust and reliable

Sturdy freight elevator with machine room and with geared or gearless drive.

Type: MR Rated Load: from 1.800 kg
Speed: up to 1.0 m/s



More than you expect ...

LiftEquip[®]

ELEVATOR COMPONENTS

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LiftEquip reserves the right to alter its products without prior warning.
 Non-contractual document with no binding effects.

Dear Sir/Madam,

LiftEquip has been successful on the market as a renowned provider of high quality lift components for over 35 years. Recently, LiftEquip has developed increasingly into a provider of kits for lift systems up to and including complete systems. This development was only logical, since skill in developing and producing complete lift systems existed from the start within our company.

In addition to our proven kits, we can now also supply you with the **LEA**[®] Comfort as a complete system. Together with Kollmorgen, we have brought out the **LEA**[®] Comfort with a type-tested MPK411 control, in line with our consistent efforts to expand our product range.

We now also provide installation training for the **LEA**[®] Standard and **LEA**[®] Comfort in our training centre. Here we show you how both systems can be efficiently and above all safely installed without scaffolding and the proper use of the tool box needed for this. You can lease the tool box from us.

All the information on our **LEA**[®] family and Home Lift complete lift systems can be found in this catalogue in compact form. The front section provides overviews and information to help you combine lift systems more easily with each other and find the solution suited for what you need faster, as well as other information on the calculation tool, installation training and the assembly tool box.

The final section contains detailed information on every lift system with car designs, technical data, scope of delivery descriptions and options. As part of the coordination regarding your project, we of course provide additional documentation, technical papers, drawings and assembly instructions.

We now wish you every success in selecting the system you need.

The LiftEquip team would of course be pleased to support and advise you at any time. You can find our contact data on the inside cover page at the end of the catalogue.

We look forward to working with you.

Best regards

LiftEquip team



Always where you need us

LiftEquip[®]
ELEVATOR COMPONENTS



LiftEquip has its location in Neuhausen auf den Fildern, near Stuttgart. With a team of more than 20 experienced elevator specialist, we support you, our customers, in every phase of a project.

Our range of products and services is based on the high level of skill in the development, production, assembly and servicing of complete elevator installations. This means that we provide you with elevator components that have clearly defined interfaces all the way to individually planned system solutions at one stop.

In the sophisticated area of standards and regulations, we are always up to date, thanks also to our active involvement in industry associations. Our international alignment means that we know the national legal and technical requirements in your country.

Thousands of highly satisfied customers have been placing their trust in us for many decades. Alongside the „big players“ in the industry, many small and medium-sized elevator companies and service operations are among our customers. What they appreciate is that we know more about elevators than almost anyone else!

We offer you a very wide range of elevator systems (the **LEA®** Family, abbreviation for LiftEquip Aufzug), from the standardised passenger elevator, through the individual high-rise elevator, all the way to the sturdy freight elevator. These systems are delivered to you as kits with all the main mechanical components, including drive and frequency inverter. In the specific scope of supply, we of course adapt to your wishes.

You choose the control system that is deployed in our elevator systems. Across clearly defined interfaces, you can combine our kits with a control system freely available on the market, the corresponding electrical components and with operating and indicator elements of your choice. This ensures that you are able to offer your customers an individual elevator from your company.

In the case of customer-specific special solutions, we can support you in the planning and also offer you a certain scope of engineering services.

In the rapidly growing market for home lifts, we are also able to offer you interesting solutions. **LEA®** Home stands for the Gulliver and Orion systems, which are delivered to you as complete solutions. This means you do not have to provide the control system or operating and indicator elements. These installations are suitable for deployment in private and public areas. The installations are delivered as complete systems in line with the Machines Directive and with CE approval.



LEA® Standard – At home in the standard

The machine-room-less elevator (MRL) is configured for the rated loads 450 / 630 / 1000 kg with 1.0 m/s and up to 40 m travel height. The **LEA®** Standard offers not only numerous equipment features, but also options such as reduced safety spaces in the shaft headroom and in the shaft pit. Typical use cases are residential buildings and simple commercial buildings.

The energy-efficient PMC125 and/or PMC145-2 gearless drives with MFC inverter are used. On request, this is combined with the MFR frequency inverter which has an energy recovery capability.

The kit consists of an elevator car with integrated safety gear frame, shaft equipment, doors, safety components, drive and inverter. The elevator is based on a type-approved system and is put into operation by means of individual approval.

LEA® Comfort – The all-rounder

With the **LEA®** Comfort, we offer you a machine-room-less elevator (MRL) in premium quality with attractive design. The rated load range covers 450 to 4000 kg and speeds of up to 2.5 m/s with travel heights up to 100 m. The highly flexible elevator system is conceived for sophisticated and heavily frequented buildings.

The energy-efficient PMC145-2 to DAF270 gearless drives with MFC inverter are used. On request, this is combined with the MFR frequency inverter which has an energy recovery capability.

The kit consists of safety gear frame, elevator car, shaft equipment, doors, safety components, drive and inverter. The elevator is based on a type-approved system and is put into operation by means of individual approval.

LEA® Comfort Plus – A classic

The **LEA®** Comfort Plus is an elevator with machine room above the shaft in premium quality with attractive design. The rated load range covers 450 to 2500 kg and speeds of up to 2.5 m/s with travel heights up to 135 m. The flexible elevator system is configured for residential and middle- to high-class office / commercial buildings.

With the **LEA®** Comfort Plus, you can choose between gear drives (TW45C and/or TW63B, 1.0 m/s and 40 m) and gearless drives (PMC145-2 to DAF270, up to 2.5 m/s and 135 m). The MFC control system is used and, on request, the MFR frequency inverter which has an energy recovery capability.

The kit consists of safety gear frame, elevator car, shaft equipment, doors, safety components, drive and inverter.

LEA® Cargo – Robust and reliable

The **LEA®** Cargo is a robust passenger and freight traction elevator with a machine room above the shaft. With a 1:1 suspension, the rated load ranges from 1600 to 2800 kg; with 2:1, from 1600 to 6000 kg. The speeds lie between 0.3 and 1.0 m/s and the travel height is up to 40 m. On request, speeds of up to 2.0 m/s and high travel heights and rated loads are possible. This elevator system is very flexible for project planning and is suitable for all transport task in shopping centres and in industry.

For the **LEA®** Cargo, high-performance gear drives (up to W332C) and/or gearless drives (up to SC400) are deployed. The MFC control system is used and, on request, the MFR frequency inverter which has an energy recovery capability.

The kit consists of safety gear frame, elevator car, shaft equipment, doors, safety components, drive and inverter. On request, heavy-duty industrial doors with large door widths made by Meiller can be selected.

Elevator system	LEA® Standard	LEA® Comfort
Main feature	At home in the standard range	The all-rounder
Characterization	The economical and space-efficient solution for medium travel heights in the standard range. Reduced safety spaces available.	Superior technology for exacting requirements and more heavily frequented buildings.
Scope of delivery	System kit without control with peripherals and without control / display elements.	System kit without control with peripherals and without control / display elements.
Installation training / assembly box	yes / yes	yes / yes
Standard	According to the Lift Directive 2014/33/EU and according to EN 81-20/-50	According to the Lift Directive 2014/33/EU and according to EN 81-20/-50

Type	MRL	MRL
Rated load	450 - 1000 kg	450 - 4000 kg
Speed	1.0 m/s	1.0 - 2.5 m/s
Max. travel height	40 m	100 m

Machine	Gearless	Gearless
Suspension	2:1	2:1 / 3:1 (> 2500 kg)
Location Machine Room	without	without
Shaft head / Shaft pit reduced	optional / optional	optional / optional
Car dimensions	fix	flexible
Door types	M2T / M2Z	M2T / M2Z / M4TZ

Recommended applications by type or use of building		
Residential building	●	
Exalted residential building	○	○
Office building	○	●
Exalted office building		●
Existing building	●	○
Hotels / Entertainment		●
Hospitals, retirement homes		●
Department stores, shopping centers		●
Industrial / warehouse buildings		○
Public transport areas		●

More on ...	Page 15	Page 37
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Legend: MRL - Machine-room-less lift ● common / typical application / ○ possible application
MR - Lift with machine-room

LEA® Comfort Plus	LEA® Cargo
A classic	Robust and reliable
Tried-and-tested elevator system with machine room and with geared or gearless drive.	Sturdy freight elevator with machine room and with geared or gearless drive.
System kit without control with peripherals and without control / display elements.	System kit without control with peripherals and without control / display elements.
yes / yes	no / no
According to the Lift Directive 2014/33/EU and according to EN 81-20/-50	According to the Lift Directive 2014/33/EU and according to EN 81-20/-50

MR	MR
450 - 2500 kg	1600 - 6000 kg
1.0 m/s (Gear) / 1.0 - 2.5 m/s (Gearless)	0.63 - 1.0 m/s (up to 2.0 m/s)
40 m (Gear) / 135 m (Gearless)	40 m (up to 110 m)

Gear / Gearless	Gear / Gearless
2:1	1:1 / 2:1
above the shaft	above the shaft
- / -	- / -
flexible	flexible
M2T / M2Z / M4TZ	M2Z / M3T / M4TZ / M6TZ

○	
●	
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●	○
●	○
	●
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M2T - double-panel telescopic opening door M4TZ - four-panel telescopic centre-opening door
M3T - three-panel telescopic opening door M6TZ - six-panel telescopic centre-opening door
M2Z - double-panel centre-opening door

We provide regular training sessions for the various installation methods of the LEA® family.

The courses take place in our modern training shafts. Participants learn in detail the methods of scaffold-less installation for LEA® Standard and LEA® Comfort. The individual work steps are explained by experienced trainers through practical exercises in secured assembly shafts. This involves practising use of the tools and lifting equipment from the tool box.



Course duration :

1 day per installation method

Language: German / English

Group size: maximum four participants

Documentation: presentation, flyers, brochures

Conditions

Protective glasses, protective gloves, safety shoes, helmet, work clothing

Target group

Employees and managers who work on building sites and who are responsible for installation or carry it out.

Costs: € 380 / participant

Your advantage:

Safe assembly thanks to type-tested scaffold-less installation method. Efficient assembly to reduce installation time and building site logistics.

Dates available, queries and other info via: produktservice@liftequip.de

Scaffold-less installation

LEA® family systems are ideally coordinated with each other in the interplay of their components. To ensure the systems also work perfectly in operation and represent an economic solution as complete package, an installation concept has been developed and certified for the LEA® Standard and LEA® Comfort with which we provide your fitters with all the tools and assembly aids needed in a single installation box. This not only reduces assembly times, but also guarantees safe installation.



This assembly concept has the following advantages for you:

- Type-tested scaffold-less installation method
installation instructions and installation box certified according to DIN 1808
- No additional PPE needed
- Costs for frames and frame conversions are completely eliminated by the Scaffold-less installation method
- Assembly instructions
Adapted to the system and available in several languages
- Installation box
All tools, equipment and hoisting equipment are available
All tools and hoisting equipment have been tested and certified.
- The tool box is prepared individually for each project.
- Simple handling of the tool box thanks to standardised process sequences
- Direct delivery to the building site and collection after installation end.
- Attractive leasing concept

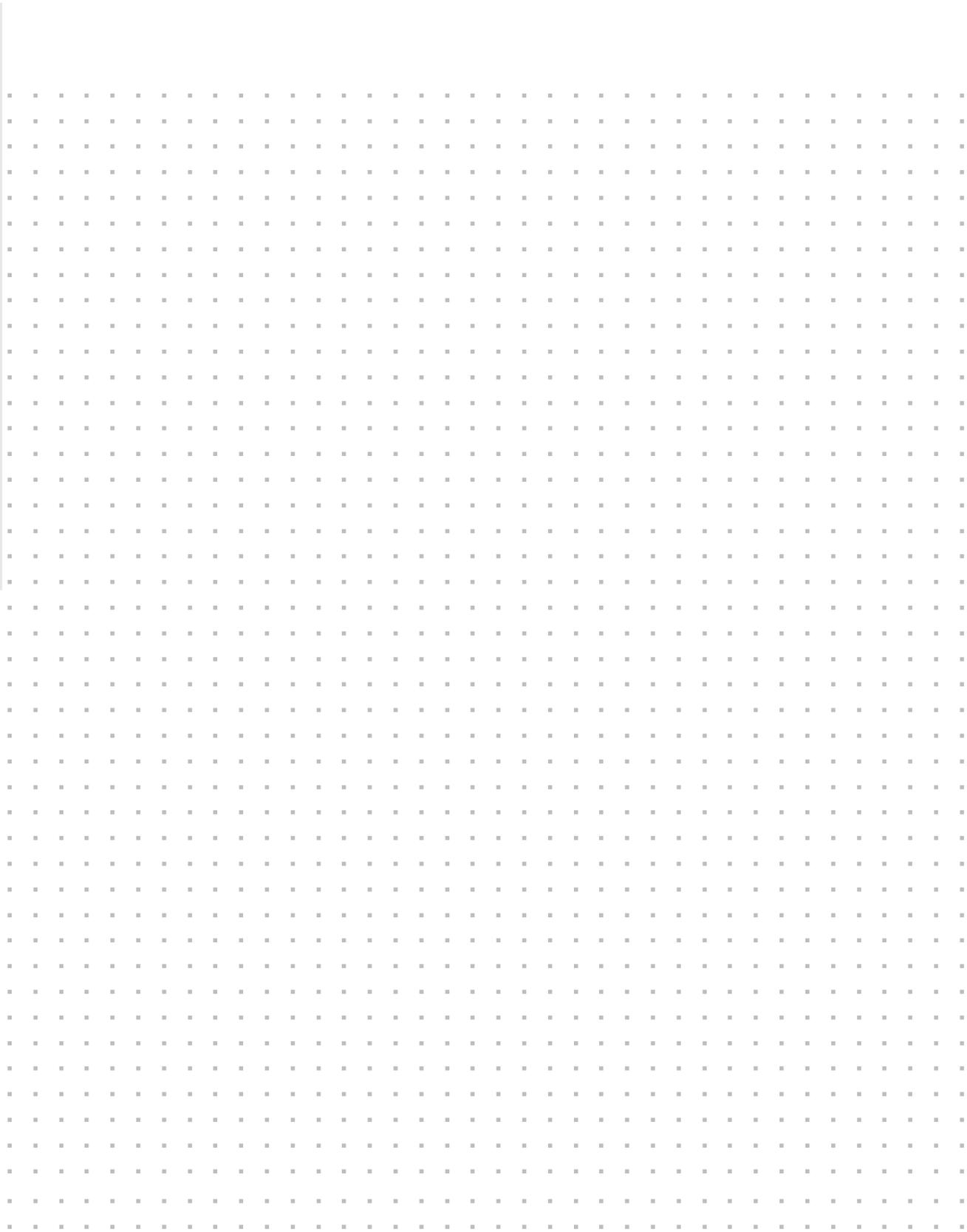
The assembly methods for both systems differ depending on the conveyance height and load-carrying capacity. The principle of scaffold-less installation is applied where it makes sense. We recommend attending a course where we explain the concept to you and handling of the tool box.

The tool box is needed until the ropes have been put in place and the lift can be operated with the available safety equipment.

Installation concept overview:

- LEA® Standard - tool box for scaffold-less installation
- LEA® Comfort (Q < 1600 kg) - tool box for scaffold-less installation
- LEA® Comfort (Q > 1600 kg) - tool box for assembly with frames

Do not hesitate to ask our sales staff for further information.



LEA® - Family

Standard	<p>At home in the standard range The economical and space-efficient solution for medium travel heights in the standard range. Reduced safety spaces available.</p> <p>Type: MRL Rated Load: 450 – 1.000 kg Travel height: 40 m Speed: 1.0 m/s</p>
Comfort	<p>The all-rounder Superior technology for exacting requirements and more heavily frequented buildings.</p> <p>Type: MRL Rated Load: 450 – 4.000 kg Travel height: 100 m Speed: up to 2.5 m/s</p>
Comfort Plus	<p>A classic Tried-and-tested elevator system with machine room and with geared or gearless drive.</p> <p>Type: MR Rated Load: 450 – 2.500 kg Travel height: 135 m Speed: up to 2.5 m/s</p>
Cargo	<p>Robust and reliable Sturdy freight elevator with machine room and with geared or gearless drive.</p> <p>Type: MR Rated Load: from 1.800 kg Speed: up to 1.0 m/s</p>



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System Description and Advantages

Technical Overview

LEA® Standard for your customers

With the LEA® Standard elevator kit, LiftEquip offers you a future oriented system solution for residential and office buildings. As a functional machine-room-less passenger elevator, it has an elaborate layout with optimal shaft usage and proven, high quality components.

Use a control system of your choice! You can configure LEA® Standard into a bespoke product from your company by combining it with a control system of your choice. It is also possible to integrate further options of operating and indicator elements that are freely available on the market.

LEA® Standard provides maximum flexibility for the shaft height dimensions, you can design the type-approved system optionally with reduced headroom and/or reduced pit depth. If there is more space available, simply plan with conventional shaft height dimensions – some additional safety measures can then be omitted. As of 630 kg, an open through entrance is also possible.

The elevator car design of LEA® Standard is highly presentable as you can choose from a wide range of ceiling lightings, wall versions, flooring materials and hand-rails. The LED lighting systems are very appealing and economical. Further options such as glass doors and a glass rear wall are also possible in the elevator car.

LEA® Standard provides you with a modern, attractive elevator system with all the advantages of series manufacturing.

New standards EN 81-20 and EN 81-50

Up until now, traction and hydraulic lifts were designed and put into service in accordance with EN 81-1 / -2. Both standards have been revised and are being replaced with the new standards EN 81-20 and -50. The new standards contain expanded safety requirements which correspond to the current state of technology. A transitional period is in effect until 31 August 2017; after that time lifts may only be placed on the market in accordance with EN 81-20/50.

Safety

- System corresponds to EN 81-20/-50, for commencement of operation per individual inspection with EU Type Test Certificate as basis

Efficiency

- Modern, highly efficient gearless machine (PMC Gearless)
- Variable frequency control (V3F) with power regeneration as an option
- Energy saving LED lighting

Economic efficiency

- Excellent price/performance ratio
- Efficient maintenance options

Reliability

- High reliability resulting from deployment of proven components (e.g. doors)
- High quality materials

Design

- Modern elevator car design with many equipment options
- Glass doors and glass rear wall in the elevator car as an option

Comfort

- Low-noise
- Gentle ride quality and precise stops

Innovation

- Machine-Room-Less (MRL)
- Optional with / without reduced headroom and pit depths

Scope of supply

- Short delivery times
- Common options available

Flexibility

- Configurable into an elevator system from your company by deploying your preferred control system and the operating and indicator elements you wish to have.

Customer benefits thanks to EN 81-20/-50

- Incorporation of further developments with respect to the current state of the technology (e.g., shortened buffer stroke)
- Greater investment security (longer grandfathering under current legislation through application of the latest state of engineering)



Not included in the scope of supply of the LEA® Standard are: Control system, control box with measures for rescue of passengers, operating and indicator elements, external control panels, mounted control panels in the elevator car, emergency call system, travelling cable, shaft selector, shaft wiring, shaft lighting, inspection control and emergency stop switch.

Energy efficiency

With LEA® Standard, you can configure an elevator system that achieves a high energy efficiency class. You thereby make a significant contribution to the reduction of ongoing operating and energy costs and lowering CO₂ emissions.

On an installation with 630 kg, 4 landings, 8.6 m travel height, LED lighting, automatic shutdown of the car lighting and power regeneration, it has been possible to verify energy efficiency class "A" in the usage category 1 in accordance with VDI 4707.



Two-panel telescopic sliding door (M2T)

RATED LOAD ¹⁾	[kg]	450	630	1000 (deep)	
Speed	[m/s]	1.0			
Max. travel height ²⁾	[m]	40			
Number of passengers		6	8	13	
Dual entrance		No	No	Yes	Yes
Max. number of landings		16			
Car width CW	[mm]	1000	1100		
Car depth CD	[mm]	1250	1400	2100	
Car height CH [DH+100] or [DH+200]	[mm]	2100 / 2200 / 2300 / 2500			
Door width DW	[mm]	800	800 / 900 / 1000 ^{3) 5)}		
Door height DH	[mm]	2000 / 2100 / 2300 ^{3) 5)}			
Shaft width SW with DW 800	[mm]	1500	1600		
Shaft width SW with DW 900	[mm]	-	1600		
Shaft width SW with DW 1000 ^{3) 5) 6)}	[mm]	-	1750		
Shaft depth door in shaft (NECD15)	[mm]	1650	1785	2010	2485
Shaft depth door in recess (NECD15)	[mm]	1580	1715	1870	2415
Shaft depth door on landing (NECD15) (not available with glass door)	[mm]	1550	1685	1810	2385
Shaft depth door in shaft (S8A)	[mm]	1655	1790	2020	2490
Shaft depth door in recess (S8A)	[mm]	1600	1735	1910	2435
Shaft head height - red. shaft head [CH+500] with NECD15	[mm]	2600 / 2700 / 2800			
Shaft head height - red. shaft head [DH+820] with S8A or glass door ⁴⁾	[mm]	2820 / 2920 / 3020 / 3220			
Conventional shaft head height [CH+1200]	[mm]	3300 / 3400 / 3500 / 3700			
Shaft pit depth with reduced shaft pit ⁵⁾	[mm]	400			
Conventional shaft pit depth	[mm]	1100 - 1850			
Min. floor-to-floor-distance [DH+360] (min. 200 with displaced open through entrance) (with NECD15)	[mm]	2360			
Min. floor-to-floor-distance [DH+450] (with S8A)	[mm]	2450			



Two-panel central opening door (M2Z)

RATED LOAD ¹⁾	[kg]	450	630	1000 (deep)	
Speed	[m/s]	1.0			
Max. travel height ²⁾	[m]	40			
Number of passengers		6	8	13	
Dual entrance		No	No	Yes	Yes
Max. number of landings		16			
Car width CW	[mm]	1000	1100		
Car depth CD	[mm]	1250	1400	2100	
Car height CH [DH+100] or [DH+200]	[mm]	2100 / 2200 / 2300 / 2500			
Door width DW	[mm]	800	800 / 900 / 1000		
Door height DH	[mm]	2000 / 2100 / 2300			
Shaft width SW with DW 800	[mm]	1800			
Shaft width SW with DW 900	[mm]	-	2000		
Shaft width SW with DW 1000 ^{5) 6)}	[mm]	-	2200		
Shaft depth door in shaft (S8A)	[mm]	1610	1745	1930	2445
Shaft depth door in recess (S8A)	[mm]	1595	1730	1900	2430
Shaft head height - red. shaft head [DH+820] with S8A or glass door ⁴⁾	[mm]	2820 / 2920 / 3120			
Conventional shaft head height [CH+1200]	[mm]	3300 / 3400 / 3500 / 3700			
Conventional shaft pit depth	[mm]	1100 - 1850			
Min. floor-to-floor-distance [DH+450] (with S8A)	[mm]	2450			



¹⁾ Notice on version in accordance with EN 81-20/50: rated load for open through entrance is identical to rated load specification with one entrance.
²⁾ With a travel height from 30 m to 40 m, no reduced shaft pit possible.
³⁾ If this configuration is selected, the minimum shaft head will increase to DH+820 mm (please consider that the shaft head will also increase to DH+820 mm if fire resistance test E30 according to GOST and EI60 according to DIN 81-58 are selected).
⁴⁾ The implementation of this configuration currently takes place with landing door type S8A.
⁵⁾ Shaft pit width for installation on landing is 1800 mm.
⁶⁾ With elevator car flooring material thickness of up to 3.5 mm; shaft pit depth of 425 mm with flooring material thickness of up to 25 mm.

Decision-making aid for selecting a suitable door model

Door model	„S8A/K8A“ (standard)	„NECD15/EDO15“ (for reduced shaft head)
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 Telescopic door (M2T) and central door (M2Z), glass door available Door heights 2000 / 2100 / 2300 mm; door widths 800 / 900 / 1000 mm 	<ul style="list-style-type: none"> Economical solution for many common applications Installation with shaft front wall possible Telescopic sliding door (M2T) Door heights 2000 / 2100 mm; door widths 800 / 900 mm Fire protection safety certificate E120 / EW60 according to EN 81-58, shaft wall EW30

Technical Details

Technical Details

Technical and electric data

Rated load	Q [kg]	450		630		1000
		PMC125-S	PMC145-2S ¹⁾	PMC125 M	PMC145-2M ¹⁾	PMC145-2L
Synchronous gearless machine	type	PMC125-S	PMC145-2S ¹⁾	PMC125 M	PMC145-2M ¹⁾	PMC145-2L
Frequency controller (V3F)	type	MFC 31/09		MFC 31/09		MFC 31/15
with energy recovery (optional)	type	MFR 5.5		MFR 5.5		MFR 7.5
Number of travel per hour max.	[s/h]	120	180	120	180	180
Rated output of motor	[kW]	2.6	2.8	3.6	3.9	6.0
Operating input power ^{2), 3)}	[kVA]	2.8	3.6	3.8	4.7	7.2
Nominal operating current ²⁾	[A]	7.9	5.1	10.2	6.7	10.4
Starting current ^{2), 3)}	[A]	15.5	7.8	18.8	10.0	15.1
Rope suspension		2:1				
Diameter of traction sheave	D _T [mm]	240				
Suspension rope (steel)	n x d _s [mm]	4 x 6	5/6 x 6	6/7 x 6	9/10 x 6	
Guide rails	Elevator car	T70				
	Counterweight	T-50/A				
	Counterweight with safety gear	T70				

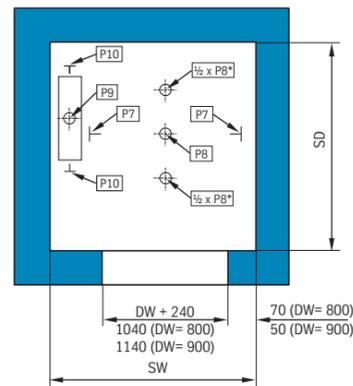
¹⁾ For travel height > 30 m. ²⁾ At 400 Volt / 50 Hz. ³⁾ Data for the elevator control unit have to be added. During the planning phase, please consider all applicable regulations stipulated by the relevant notified body and all applicable national regulations.

Specified loads in the shaft pit

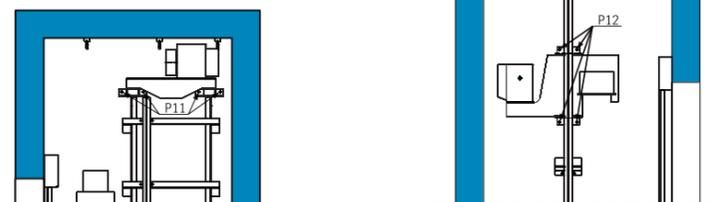
Rated load	Q [kg]	450	630	1000
Load points / elevator car guide rails	P7 [kN]	16	20	29
Load points / elevator car buffer	P8 [kN]	48	59	86
Load points / counterweight buffer	P9 [kN]	37	44	62
Load points / counterweight guide rails	P10 [kN]	16	19	27
Extraordinary loads:				
Load points / machine base frame	P11 [kN]	4 x 3.5	4 x 4.5	4 x 6
Load points / rope fixing points	P12 [kN]	4 x 2.5 - 4 x 6.5	4 x 3.5 - 4 x 9.0	4 x 6.0 - 4 x 13.5

The loads P7 to P10 never occur simultaneously.

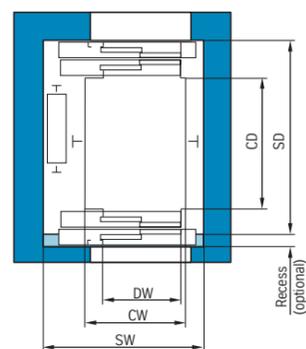
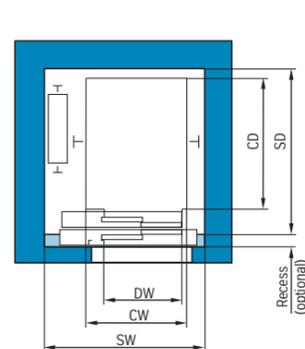
* Two buffers in the case of reduced shaft pit depth. With a conventional shaft pit depth, only one buffer, central between the elevator car guide rails.



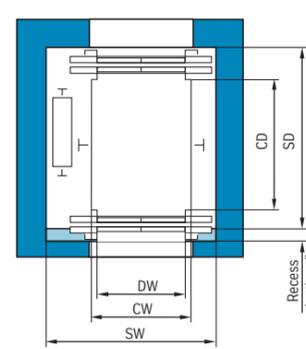
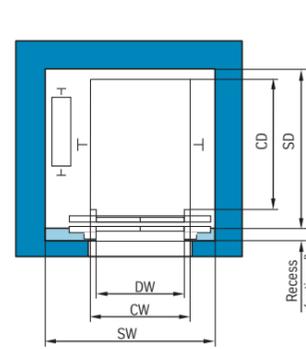
Machine base frame forces



Shaft layout with side-opening door (M2T)



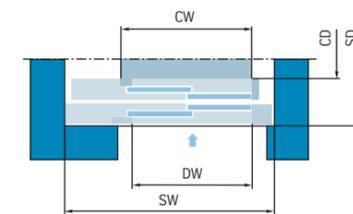
Shaft layout with central opening door (M2Z)



Shaft layout is also possible as mirror-inverted, with position of the counterweight on the opposite shaft side.

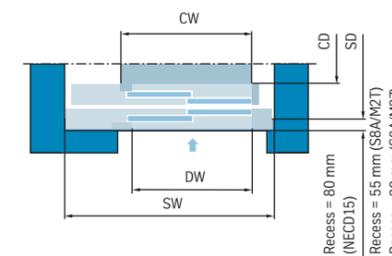
Door installed in shaft

The landing doors are fastened to the shaft wall by means of brackets and drill fixings. Door type SBA can optionally be mounted with securing bolts on anchor rails (measurement in concrete according to CEN/TS 1992-4:2009) that are cast into the shaft wall or welded onto a shaft steel structure.



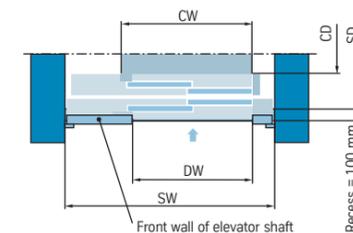
Door installation in recess

In the interest of optimal utilisation of space, the landing door can be installed in a recess.



Door installation in the story with shaft front wall (only with door model NECD15)

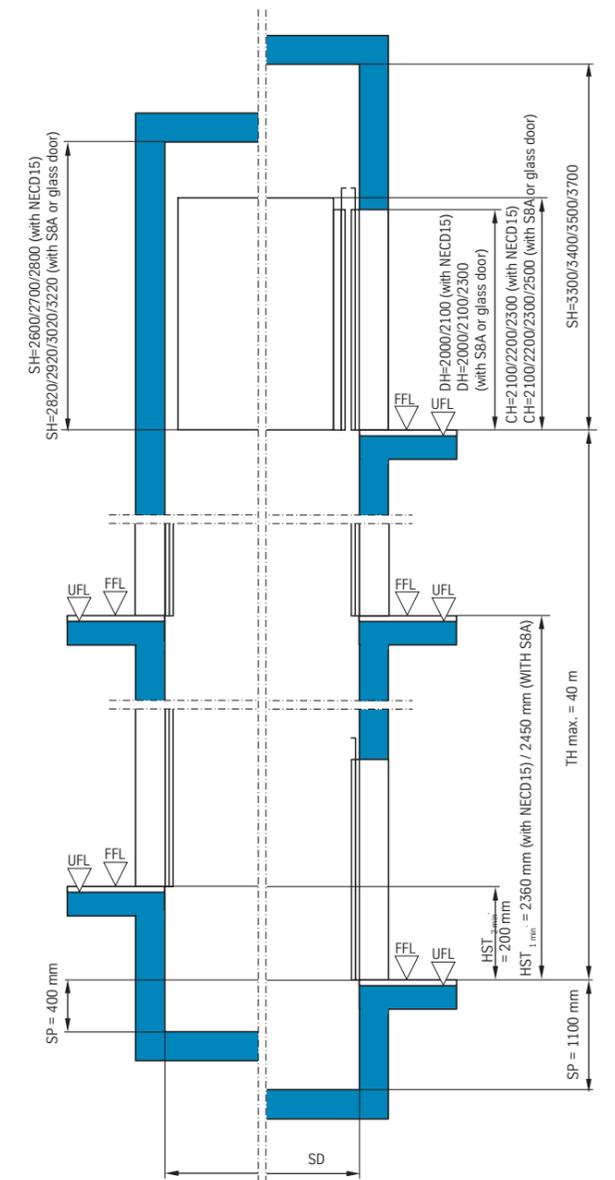
Installation of the landing door on the story with the shaft front wall is also possible. This stretches across the entire shaft width. From the point of view of construction, this means no special door opening is required.



- DH - door height
- DW - door width
- CH - car height
- CW - car width
- CD - car depth
- SW - shaft width
- SD - shaft depth
- TH - travel height
- HST - floor-to-floor-distance
- SH - shaft headroom
- SP - shaft pit depth
- FFL - finished floor level
- UFL - unfinished floor level

Shaft vertical section with reduced headroom and / or reduced pit depth or conventional headroom and conventional pit depth

(only available with telescopic door)



LEA® Standard with reduced dimension for headroom and/or pit depth

Ideal for very narrow space available and for reduction of the construction costs. With LEA® Standard, there is the choice of only the headroom, only the pit depth or both dimensions reduced. The reduced dimensions for head room and pit depth are only possible in conjunction with the telescopic door (M2T). Please observe all applicable regulations stipulated by the relevant notified body and all applicable national regulations.

LEA® Standard with conventional dimension for headroom and pit depth

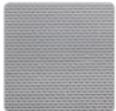
In the basic version, LEA® Standard is designed with conventional headroom and conventional shaft pit. Even then, the space requirement is very low. In this case, no additional protective measures need to be implemented.

Car Design

Car Design

Equipment features of the design lines

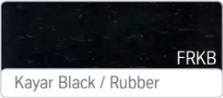
Colours / materials
Available colours

colour-line					
	Electrolytically galvanised	Traffic White (RAL 9016 powdered coated Sheet Metal)	White Aluminium (RAL 9006 powdered coated Sheet Metal)	Sandey Yellow (RAL 1002 Sheet Metal with plastic coating)	Pastel Grey (RAL 7042 Sheet Metal with plastic coating)
stainless-line					
	Stainless Steel, grain 220, Ground and Brushed	Stainless Steel Linen	Stainless Steel Leather		

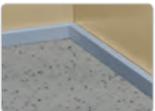
False ceilings and lighting

	
SlimLED (175 x 175 mm, lighting directly on car ceiling (standard))	Spot (LED lighting possible, optional in stainless steel)

Flooring material

			
FPDG Dove Grey / Vinyl	FRKG Kayar Grey / Rubber	FRKB Kayar Black / Rubber	Without flooring material – lowered by 3.5 or 25 mm for customer-fitted flooring material

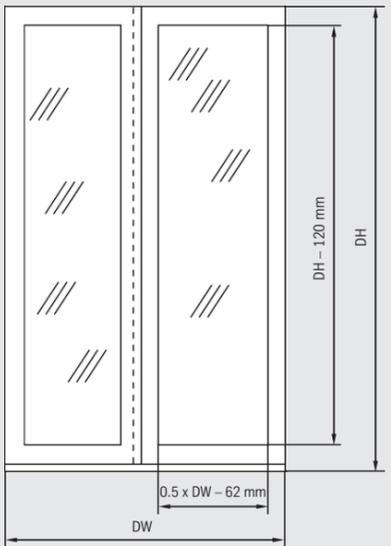
Handrails	Bumper rails
	
Stainless Steel Hairline (ferritic, type 304), Ø 40 mm Curved ends (acc. to EN 81-70)	Stainless steel Hairline, (ferritic, type 304), 140 x 18 mm

Skirting	Mirror	Glass rear wall	Glass door
			
Aluminium Surface brushed and polished, design grain 220, height 50 mm	On rear wall of car, with aluminium strips	In Stainless Steel, frame with aluminium	Glass door panels with frame (only with S8A/K8A)

Elevator cars

		
colour-line	stainless-line	Detail: SlimLED PANEL
		
		Detail: Aluminium skirting with car wall in stainless steel Linen

Glass versions (optional)

		
Glass door panels with frame (telescopic door, opening to the right) (only with S8A/K8A)	Glass surface in the glass door panel (only with S8A/K8A)	Glass rear wall

Design selection

STYLE selection – colour range

LEA® Standard

Design

- Design lines, developed in collaboration with a renowned interior architect and designer
- Uni-Colour design – horizontal separation of the wall surfaces at the height of the hand-rail offers modern design options
- Modern and contemporary colours and designs, coordinated with the trends in interior architecture and the possibility for strong contrasts

Flexibility

- Impressive selection of high-quality materials and attractive colours
- Uni-Colour design and colours may be specified at a later time

Economic Efficiency

- Uni-Colour wall surfaces may be installed after the construction phase

Comfort

- Design lines convey a relaxing atmosphere, even in small elevator cars
- Light effects are possible with accent lighting

STYLE



Stainless Steel



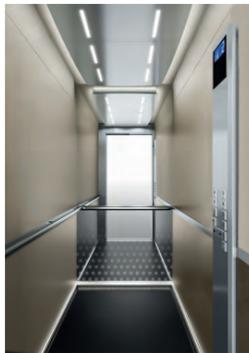
Green Apple

CHIC

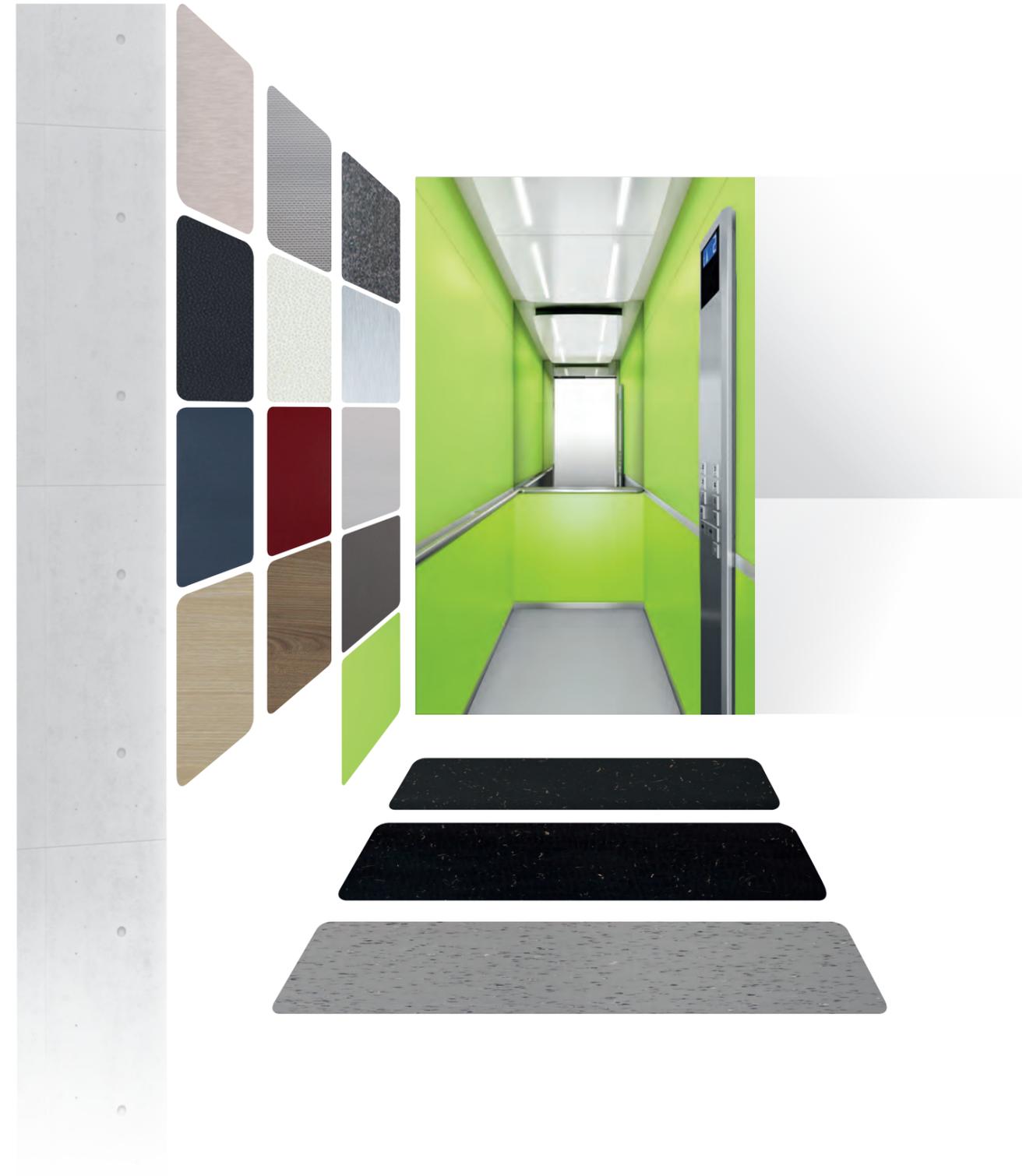


Dark Ink

ELEGANT



Hairline/Stainless Steel



LEA® Standard

STYLE selection – component range

STYLE selection – design list

Hand rails



Structure

- 1. Car ceiling**
 - RAL 9016 painting.
- 2. False ceiling**
 - Delivery in 2 to 3 parts depending on car dimensions.
 - Made of steel, powder coated RAL 9006.
- 3. Top / bottom elevator panel**
 - Thickness approx. 12 mm (depending on the surface materials).
- 4. Moulding**
 - Aluminium – brushed and polished surface – design grain 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of stainless steel grain 220.
 - Version with arch mounting (suitable for the disabled in accordance with EN 81-70), attached to decorative strip with round mounting.
 - Available on 1/2/3 side(s).
- 6. Bottom car panel**
 - Aluminium – brushed and polished surface – design grain 220.
 - Height 50 mm.
- 7. Flooring material**
 - Thickness between 3 and 25 mm.

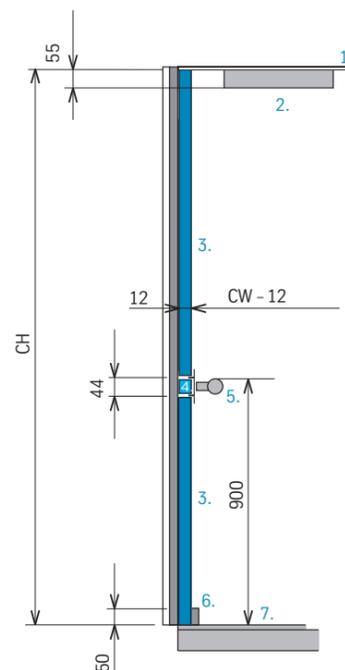
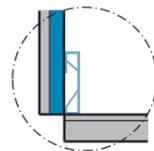
Mirrors (half)



False ceilings



Skirting



Subject to technical changes that might have an impact on the design (look, feel).

Mirrors



Half mirror MTRS

Colours / materials			
Available colours – as top or bottom car panel			
WTSE Leather / Stainless Steel WBSE	WTSL Linen / Stainless Steel WBSL	WTSH Hairline / Stainless Steel WBSH	Stainless Steel look / Aluminium
WTPW White Skin / Plastic coating WBPW	WTPS Dark Skin / Plastic coating WBPS	WTCS Smoke / Direct coating WBCS	
WTLR Red Ming / Direct coating WBLR	WTLD Dark Ink / Direct coating WBLD	WTLI Iron / Direct coating WBLI	
WTLA Green Apple / Direct coating WBLA	WTLT Toronto / Direct coating WBLT	WTLC Canberra / Direct coating WBLC	

False ceilings		
Classic LED CSCL	Fantastic LED CSFL	SPOT LED CSSL

Flooring materials		
Dove Grey / Vinyl FPDG	Kayar Grey / Rubber FRKG	Kayar Black / Rubber FRKB

Handrail	Bumper rails
 <p>Stainless steel Hairline (austenitic, type 304), Ø 40 mm Curved version  Rear wall, side walls</p>	 <p>Stainless steel Hairline (austenitic, type 304) 140 x 18 mm</p>

Skirting
 <p>Brushed and polished surface design, stainless steel Hairline (austenitic, type 403), height 50 mm</p>

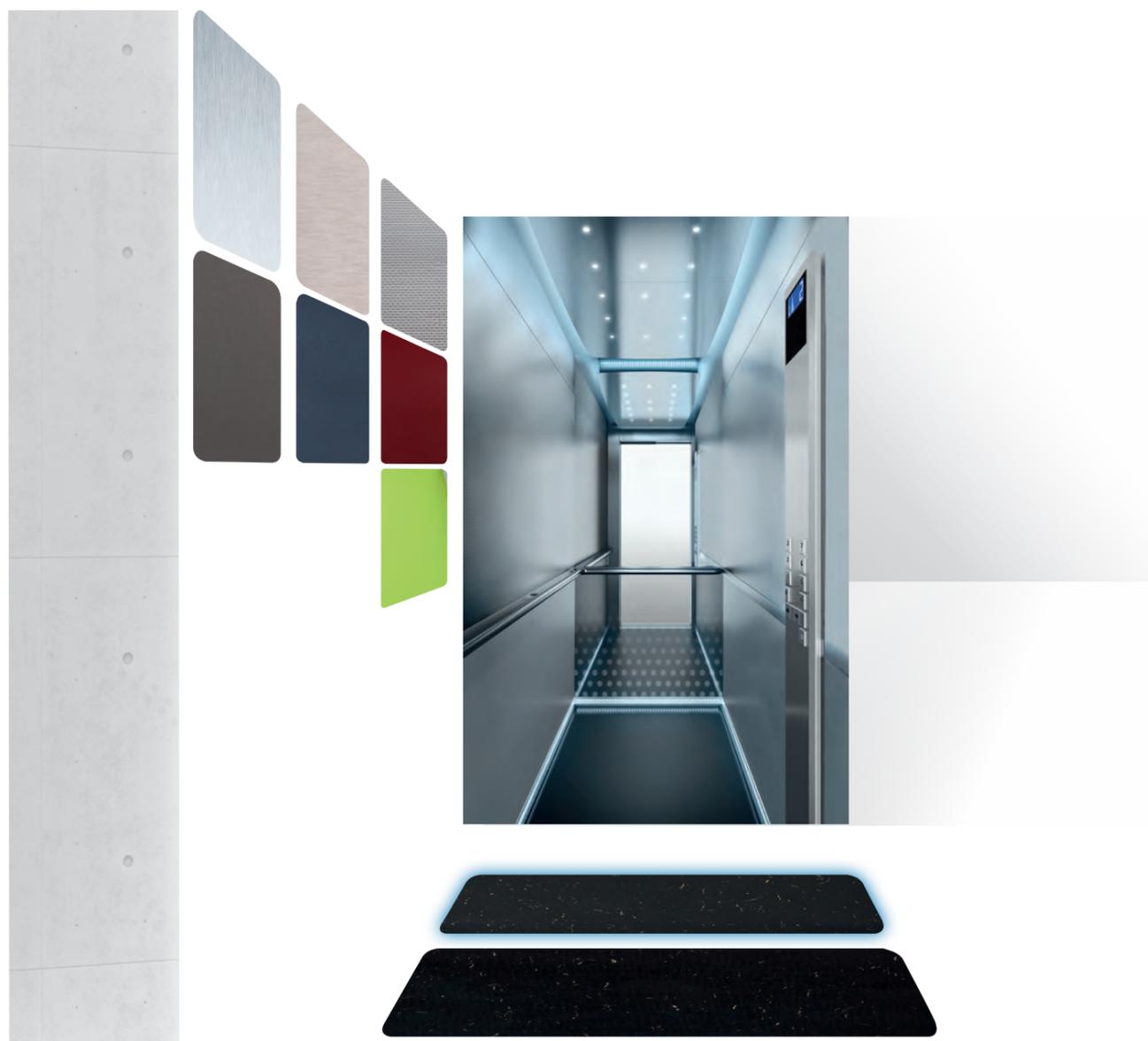
Optional

Subject to technical changes that might have an impact on the design (look, feel).

CHIC selection – colour range

CHIC selection – colour range

LEA® Standard



Hand rails



Structure

- 1. Car ceiling**
 - RAL 9016 painting.
- 2. False ceiling**
 - Delivery in 2 to 3 parts depending on car dimensions.
 - Made of steel, powder coated RAL 9006.
- 3. Top / bottom elevator panel**
 - Thickness approx. 12 mm (depending on the surface materials).
- 4. Moulding**
 - Aluminium – brushed and polished surface – design grain 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of stainless steel grain 220.
 - Version with arch mounting (suitable for the disabled in accordance with EN 81-70), attached to decorative strip with round mounting.
 - Available on 1/2/3 side(s).
- 6. Bottom car panel**
 - Aluminium – brushed and polished surface – design grain 220.
 - Height 50 mm.
- 7. Flooring material**
 - Thickness between 3 and 25 mm.

Mirrors

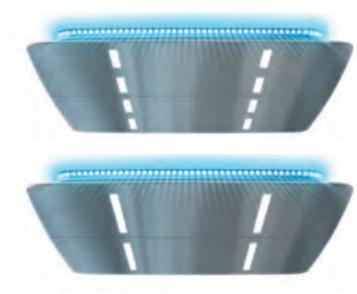


(half)

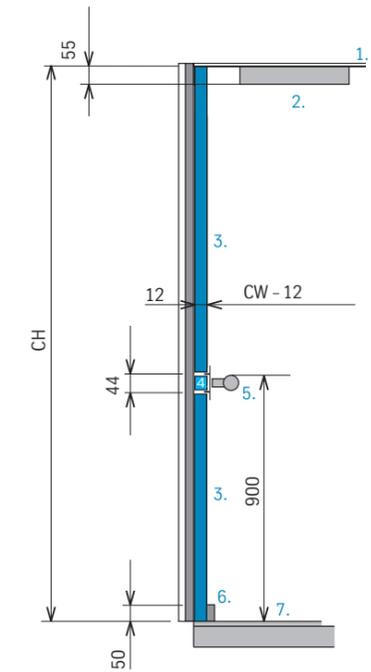
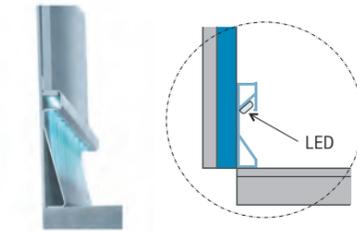


(total height)

False ceilings



Skirting

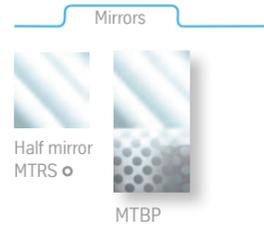


Subject to technical changes that might have an impact on the design (look, feel).

LEA® Standard

CHIC selection – design list

ELEGANT selection – colour range



Colours / materials

Available colours – as top or bottom car panel

WBLE Linen / Stainless Steel	WBSH Hairline / Stainless Steel	Stainless Steel look / Aluminium
WTLD Dark Ink / Direct coating	WTLI Iron / Direct coating	WTLA Green Apple / Direct coating
WBLR Red Ming / Direct coating		

False ceilings

Grandiose LED CGLW/R	Brilliant LED CBLW/R
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Flooring materials

FRKG Kayar Grey / Rubber	FRKB Kayar Black / Rubber
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Handrail Bumper rails

Stainless steel Hairline (austenitic, type 304), Ø 40 mm Curved version <input type="checkbox"/> Rear wall, side walls	Stainless steel Hairline (austenitic, type 304) 140 x 18 mm
------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------

Optional

Skirting

Brushed and polished surface design, stainless steel Hairline (austenitic, type 403), height 50 mm

Subject to technical changes that might have an impact on the design (look, feel).



ELEGANT selection – component range

ELEGANT selection – design list

LEA® Standard

Hand rails



Structure

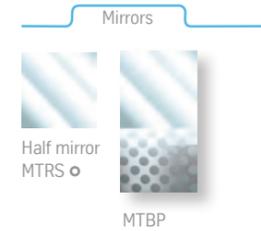
- 1. Car ceiling**
 - RAL 9016 painting.
- 2. False ceiling**
 - Delivery in 2 to 3 parts depending on car dimensions.
 - Made of steel, powder coated RAL 9006.
- 3. Top / bottom elevator panel**
 - Thickness approx. 12 mm (depending on the surface materials).
- 4. Moulding**
 - Aluminium – brushed and polished surface – design grain 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of stainless steel grain 220.
 - Version with arch mounting (suitable for the disabled in accordance with EN 81-70), attached to decorative strip with round mounting.
 - Available on 1/2/3 side(s).
- 6. Bottom car panel**
 - Aluminium – brushed and polished surface – design grain 220.
 - Height 50 mm.
- 7. Flooring material**
 - Thickness between 3 and 25 mm.

Subject to technical changes that might have an impact on the design (look, feel).

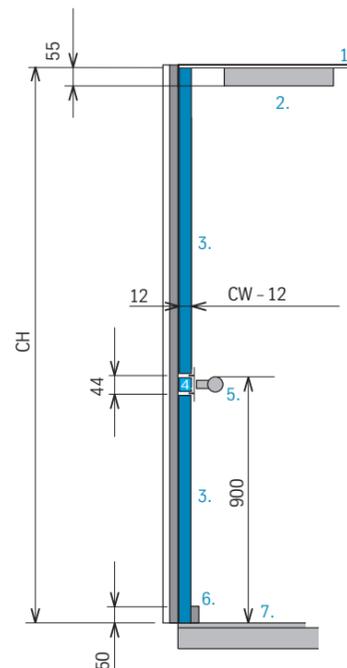
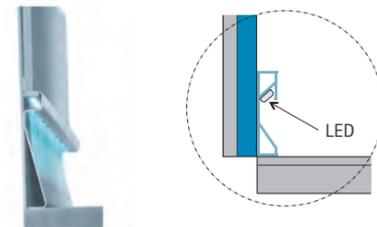
Mirrors



False ceilings



Skirting



Optional

Subject to technical changes that might have an impact on the design (look, feel).

LEA® Standard

Colours / materials

Available colours – as top or bottom car panel



False ceilings



Flooring materials



Handrail



Stainless steel Hairline (ferritic, type 304), Ø 40 mm
Curved version
Rear wall, side walls

Bumper rails



Stainless steel Hairline (ferritic, type 304)
140 x 18 mm

Skirting



Brushed and polished surface design, stainless steel Hairline (austenitic, type 403), height 50 mm

Main Components

Scope of Supply and Planning Information

Gearless machine



Gearless PMC125 resp. PMC145-2

The synchronous gearless PMC125 resp. PMC145-2 are one of the most compact machines worldwide and is perfectly suited for deployment in the LEA® Standard elevator system without a machine room.

- High efficiency
- Low noise as there is no forced ventilation and very smooth running
- Safe and comfortable electromagnetic brake release
- Anti-friction bearings with life-time lubrication
- Ideally suited for energy recovery

Frequency inverter

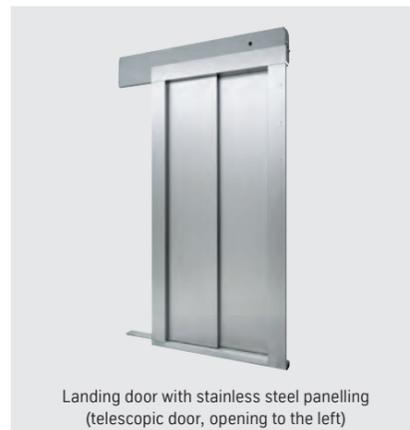


MFC 21/31 Inverter

The power-vector-controlled LiftEquip frequency inverter is optimised for the PMC125 resp. PMC145-2 synchronous machines.

- Inverter MFC 21 with power filter and power choke
- With travel contactor (MFC 31)
- Brake activation
- Brake resistor in the separate housing
- Motor parameters stored
- Rapid commissioning via Plug&Play
- Emergency power mode possible in the event of a power failure via UPS (uninterrupted power supply)
- Integrated speed monitoring for compliance with EN81-A3 (for MFC 31) in conjunction with suitable control system
- Parallel interface and DCP03

Doors



Landing door with stainless steel panelling (telescopic door, opening to the left)

Door Type S8A/K8A

Landing door S8A

- Fire-tested in compliance with DIN EN 81-58
- Door panels at top with large rollers and counterrollers, adjustable sliders
- The door panels are single-leaf and made in noise-inhibiting sandwich design
- Comprehensive range of options
- Telescopic door (M2T) and central door (M2Z)

Car door K8A (Door drive F9)

- Frequency-controlled machine with toothed belt drive
- Automatic learning function
- Adjustable opening / closing times
- Collision detection
- High resolution light curtain

- Brake system against overspeed in accordance with EN 81-20 /5.6.6 and against unintended movement of the elevator car in accordance with EN 81-20 /5.6.7
- UCM verification using the safety brake of the machine and considering the switching times of the control system
- Rope guard in accordance with EN 81-77 up to earthquake category 3

MFR Inverter (optional)

The MFR frequency inverter with energy recovery capability is the optimal technology for the creation of an energy efficient elevator.

In addition to features of the MFC 21/31:

- Inverter with electronic brake activation, power filter, power choke and electronic travel contactors
- Integrated power regeneration, which means no brake resistor is required
- Possibility for activation of a standby and sleep mode to improve energy efficiency
- Possibility for remote parameterisation via DCP03/04, CANopen and parallel interface

Door Type NECD15 and/or EDO15 (for reduced shaft head)

Landing door NECD15

- Fire-tested in compliance with DIN EN 81-58
- Door panels at top with rollers and counterrollers, two gliding felt strips
- Telescopic door (M2T)

Car door EDO15 (Door drive TK-DOD)

- Voltage-controlled machine with toothed belt drive
- Automatic learning function
- Adjustable opening / closing times
- Collision detection

Scope of supply LEA® Standard elevator system

Machine

- Gearless machine PMC125 resp. PMC145-2, with motor cable (5 m)
- Encoder (BISS-C, NDAT, etc.) with cables (5 m)
- Positioned on drive bracket in the shaft headroom, supported by bearings and protected from vibration

Frequency inverter

- MFC21 / MFC31 inverter without power regeneration, with chopper resistor
- BS3 for brake activation (optional)
- MFR inverter (optional) with power regeneration

Elevator car

- Self-supporting elevator car, two plastic diverter pulleys (ø 240 mm) on the bottom, suspension 2:1, car railing
- Vibration insulation with steel springs
- Ventilation through the door portal

Counterweight

- Steel plate frame with diverter pulley
- Filler weights: steel, Gussolith (type 3.8 / 5.0), concrete, in variable ratio
- Counterweight compensation 40 %

Guides on elevator car / counterweight

- Moving plastic guides
- Optional lubricator
- Optional pulley guides

Guide rails

- For elevator car: T70
- For counterweight T50/A, with safety gear on counterweight: T70

Rope system

- Steel ropes ø 6.0 mm (1770 N/mm²)
- Rope fixing points in the shaft headroom, suspensions insulated with rubber / steel springs
- Compensation chain as of travel height > 33 m

Shaft equipment

- Two-part sliding shackles made of powder-coated, painted or galvanised steel plate

Painting/priming

- Steel parts mainly with powder coating (similar to RAL 7005) or priming (RAL 7031 and/or RAL 7005), layer thickness approx. 60 µm; galvanised parts remain galvanised

Landing door (NECD15) / car door (EDO15)

- Door panels and door architraves made of electrolytically galvanised sheet metal with primed front (RAL 7042 with installation in the shaft / niche, RAL 7005 with installation in the landing)
- Car door panels single-leaf, made of austenitic stainless steel, grain 220
- Door drive with DC-current control, power transmission with toothed belt, closing force limitation
- Light curtain
- Aluminium shaft door sills

Progressive safety gear

- Progressive safety gear for downwards direction, integrated in the car floor
- Protection in upward direction: monitored operational brake according to EN 81-20, 5.6.6

Speed governor

- ø 200 mm, with remote tripping, positioned in the shaft headroom at the rail end
- Governor rope ø 6.5 mm
- Tensioner device

Buffer

- Counterweight: driving on the frame
- Elevator car: in the shaft pit

With reduced shaft headroom (optional)

- Opening monitoring for all landing doors with reset for normal travel
- Speed governor with "positive effect"* of control system
- Monitored, automatic pivot stops on the car roof and step protection monitoring
- Monitored, pivoting railing

With reduced shaft pit (optional)

- Opening monitoring for the landing doors in top and bottom floors with reset for normal travel
- Speed governor with "positive effect"* of control system
- Monitored telescopic car door toeguard with electrical operation
- Monitored buffer support for connection in the shaft pit

Not included in the scope of supply are:

- Control system with control box and measures for the rescue of passengers
 - Operating and indicator elements
 - External control panels
 - Mounted control panel in the elevator car
 - Emergency call system
 - Car distributor box
 - Travelling cable
 - Shaft selector
 - Shaft wiring and lighting
 - Inspection control, emergency stop switch
 - Integration of the inverter
 - Connection of the elevator car lighting, of the elevator car fan and of the overload sensor
 - Load measurement system (occupied, full load, overload)
 - emergency light
- All of the above components must be provided by the installation firm and/or a control system supplier.

Control box of the control system

The control box with control system is not included in the scope of supply. It must be provided by the installation firm. The control box is mounted preferably in the top landing of the entrance area. Installation in the landings below this is possible. The nearest landing door must be located within calling distance of the control box and be visible from the control box. If the control box is installed in an adjoining room, the room must be equipped with an intercom system in accordance with EN 81-20 5.12.3.2.

Legal information

The LEA® Standard elevator system has been granted an EU Type Test Certificate in accordance with Appendix IV, Paragraph B, of the Directive 2014/33/EU. Before the commencement of operation, the installation firm must have the elevator system per inspected / approved in an individual inspection with danger analysis. The existing EU Type Test Certificate can be used as the basis for this. During the planning phase, please consider all applicable regulations stipulated by the relevant notified body and all applicable national regulations. Patents have been granted for the LEA® Standard elevator system. On an order-related, LiftEquip will issue a quota licence.

* "Positive effect" means that the speed governor is in the pre-triggered position in the event of a power failure. System is to be safeguarded with a battery.

Performance Programme and Options

Performance Programme and Options

LEA® Standard

LEA® Standard: technical data, landing door

Design lines	VERTICAL Design	
	colour-line	stainless-line
Technical data		
Rated load		
Q = 450 / 630 / 1000 kg (with 1 entrance)	●/●/●	
Q = 630 / 1000 kg ¹⁾ (with dual entrance)	○/○	
Speed v = 1.0 m/s	●	
Travel height TH max. = 40 m	●	
Max. number of landings 16	●	
Car height CH = 2100 / 2200 / 2300 / 2500 mm	●/○/○/○	
Door types		
M2T side-opening, double-panel telescopic sliding door	●	
M2Z center-opening, double-panel sliding door (only available with S8A)	○	
Door width DW = 800 / 900 mm / 1000 mm ²⁾ (DW = 1000 mm only available with S8A)	○/●/–	
Door height DH = 2000 / 2100 / 2300 mm ²⁾ (DH = 2300 mm only available with S8A)	●/○/○	
Shaft head SH		
Min. 3400 mm (CH + 1200 mm)	●	
Reduced: min. 2820 mm (DH + 820 mm) for S8A or glass door ²⁾	○	
Reduced: min. 2600 mm (CH + 500 mm)	○	
Shaft pit depth SP		
Min. 1100 mm	●	
1100 – 1850 mm	○	
Reduced: min. 400 mm + flooring material thickness (up to DH < 30 m available) ³⁾	○	
Reduced: 450 – 1100 mm (up to DH < 30 m available) ³⁾	○	
Rail bracket fixing		
with dowels	●/○	
to anchor rails	○	
Compatible supports for calcium silicate walls (not for Germany)	○	
Safety gear on the counterweight	○	
Roller guide on the elevator car	○	
Roller guide on counterweight	○	
Halogen-free wiring	○	
Landing door		
Installation in shaft / in recess (80 mm) / in landing (recess = 100 mm) ⁴⁾	●/○/○	
Fire protection safety standard E120 / EW60 resp. EW30 with shaft front wall in accordance with EN 81-58	●	
Fire protection safety standard EI60 accordance to EN 81-58 ²⁾	○	
Fire protection safety standard E120 accordance with EN 81-58 ²⁾	○	
Fire protection safety standard E30 accordance to GOST ²⁾	○	
Fire protection safety standard EI60 (EI120 for Ukraine) accordance to GOST	○	
Version of door panels and door frame		
GPrimed (RAL 7042), smooth paint [NECD15]	●	○
Stainless steel Hairline (austenitic, type 304) / Linen / Leather / Diamond [S8A]	○/○/○/○	●/○/○/○
Aluminium door sill (max. wheel load 190 kg) / stainless steel (max. wheel load 350 kg)	●/○	
Profile between the door frames made of aluminium / stainless steel	○/○	
Gap cover – primed (RAL 7005), smooth paint / electrolytically galvanised	○/○	
Stainless steel Hairline (austenitic, type 304) / Linen / Leather	○/○/○	
Wallplug fixture	●	
Floor-to-floor distance FFD min. = DH + 360 mm (with NECD15) / = DH + 450 mm (with S8A)	○	
Glass door panels with frame (only available with S8A)	○	
Concrete block plate (floor plate) for NECD15 landing doors	○	

● in the standard, ○ optional, – not available. Please contact our sales consultants regarding the availability of options. *optionally available in ferritic, type 441 (only for vertical design)

¹⁾ Notice on version in accordance with EN 81-20/50: rated load for open through entrance is identical to rated load specification with one entrance.

²⁾ Please consider that the shaft head for central opening doors as well as for the selection of DW=2300 mm, fire resistance test E30 according to GOST and EI60 according to EN81-58 will also increase to DH+820 mm. ³⁾ At the moment not available with M2Z ⁴⁾ At the moment only available for M2T NECD15 with sheet metal door panels. ⁵⁾ Does not apply to NECD15 with RAL 9006, S8A with RAL 7005 as well as SA101 „fire resistance test country-specific in accordance with GOST (not EN 81-58)*, as in these cases smooth paint is deployed.

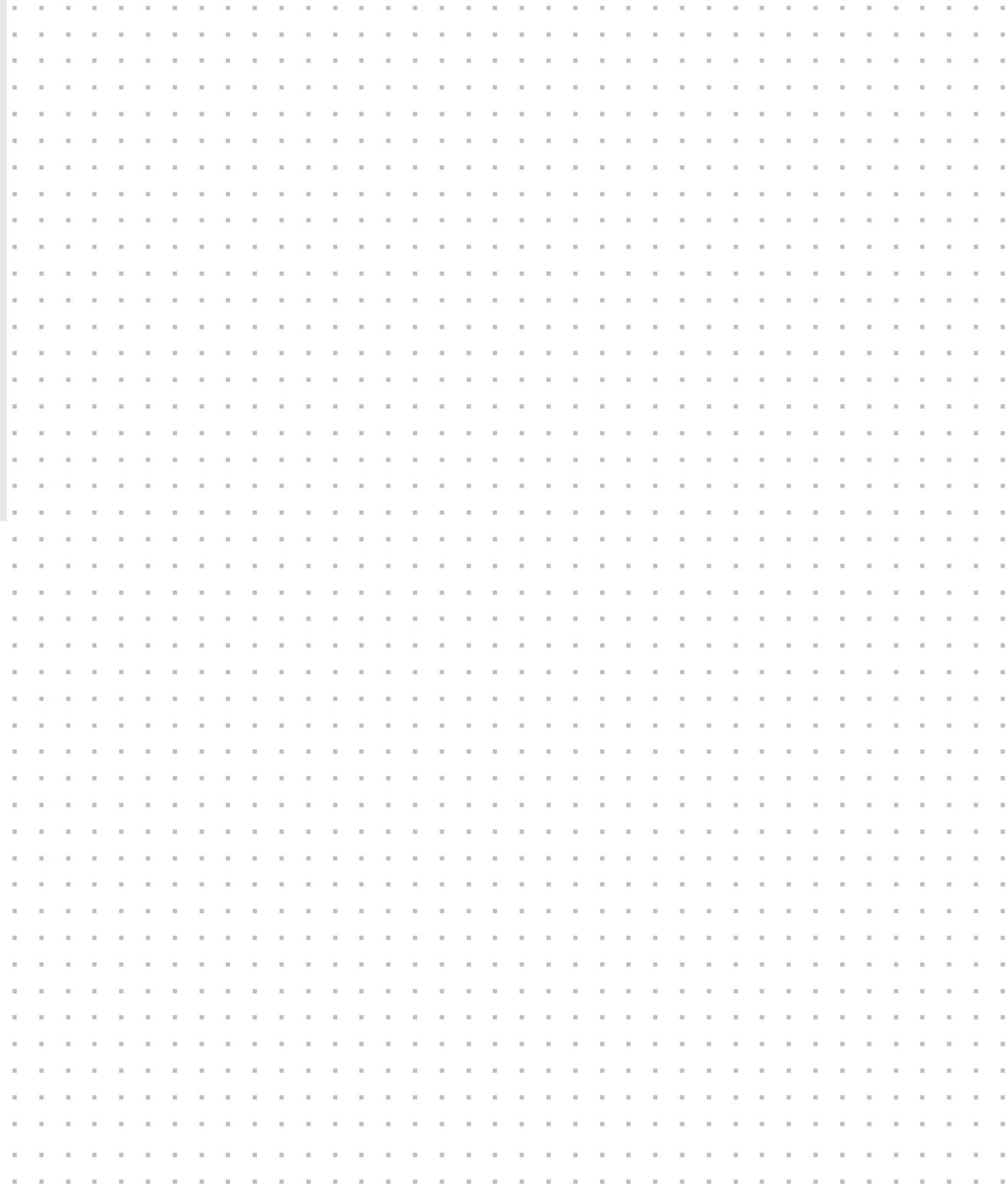
LEA® Standard: car door, elevator car equipment

Design lines	VERTICAL Design	
	colour-line	stainless-line
Car door		
Door security system (closing-edge monitoring)		
Light curtain (174 crossed beams)	●	●
Door panel finishing		
Electrolytically galvanised [K8A]	●	○
Stainless steel Hairline (austenitic, type 304)* [EDO15] / [K8A]	○/○	●/●
Stainless steel Linen [EDO15] / [K8A]		○/○
Stainless steel Leather [K8A]		○
Stainless steel Diamond [K8A]		○
Car opening panel		
Stainless steel Hairline (austenitic, type 304) / Linen / Elephant Skin [K8A]	○/○/○/○	●/○/○/○
Aluminium door sill		●
Mechanical car door locking, acc. to EN 81-20/50 [EDO15] / [K8A]		●/○
Elevator car equipment		
Wall panels		
Electrolytically galvanised	●	○
Powder coated Traffic White (RAL 9016) / White Aluminium (RAL 9006)	○/○	–
Stainless Steel, grain 220 / Linen / Leather	–	●/○/○
Car ceiling in Traffic White / in stainless steel		●/○
Elevator car lighting		
Spot / Constellation / Domino		○/○/●
SlimLED PANEL ¹⁾ / LED lighting (with Spot / Constellation / Domino)		○/○
Hand-rail		
Type Stainless Steel, grain 220, diameter 40 mm with curved ends		○
Bumper rails		○
Skirting (Aluminium / Stainless Steel, grain 220)	○/○	●/○
Flooring material		
Ice / Kayar Grey / Kayar Black (all Rubber)	○/○/○	●/○/○
Dove Grey (Vinyl)	●	○
Floor recessed by 3.5 mm / 25 mm (flooring material supplied by the customer)		○/○
Mirror on side wall of car opposite car operating panel / on rear wall of car		○/○
Glass rear wall (basic)		○
Folding seat (surface-mounted version)		○
Fan in car ceiling with automatic switching on/off as well as after-run function		○

● in the standard, ○ optional, – not available. Please contact our sales consultants regarding the availability of options.

¹⁾ on request

LEA® Standard



LEA® - Family

Standard

At home in the standard range

The economical and space-efficient solution for medium travel heights in the standard range. Reduced safety spaces available.

Type: MRL Rated Load: 450 – 1.000 kg
 Travel height: 40 m Speed: 1.0 m/s

Comfort

The all-rounder

Superior technology for exacting requirements and more heavily frequented buildings.

Type: MRL Rated Load: 450 – 4.000 kg
 Travel height: 100 m Speed: up to 2.5 m/s

Comfort Plus

A classic

Tried-and-tested elevator system with machine room and with geared or gearless drive.

Type: MR Rated Load: 450 – 2.500 kg
 Travel height: 135 m Speed: up to 2.5 m/s

Cargo

Robust and reliable

Sturdy freight elevator with machine room and with geared or gearless drive.

Type: MR Rated Load: from 1.800 kg
 Speed: up to 1.0 m/s



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System description and advantages

Technical overview

LEA® Comfort elevator system

With the LEA® Comfort elevator kit, LiftEquip offers you a future oriented system solution for very sophisticated applications. As a premium machine-room-less passenger elevator, it has an elaborate layout with good shaft usage and proven, only top quality components.

Use a control system of your choice! You can configure LEA® Comfort into a bespoke product from your company by combining it with a control system of your choice. It is also possible to integrate further options of operating and indicator elements that are freely available on the market.

LEA® Comfort exhibits the ultimate in flexibility when it comes to the car dimensions: millimetre-adjustment of the car width and the car depth. You can use one side-opening double-panel and two- or four-panel centre-opening doors. The high quality door system thyssenkrupp S8A/K8A is suitable for operation in advanced elevators for upmarket and highly frequented buildings. The modular system is offered with an entrance and open through entrance.

As a highlight LEA® Comfort offers you fantastic car design: the design line Uni-Colour (with STYLE, CHIC and ELEGANT) has a wide range of attractive colours to choose from with an elegant separation between full-surface upper and lower wall sections. The classic VERTICAL design line with vertical wall lamella includes high quality stainless steel designs. The tasteful car design is rounded off by a wide range with LED illuminated ceilings and handrails. Further options such as glass doors and a full glass cabin are also possible.

LEA® Comfort is a highly variable, economical and durable elevator system with a modern machine. By using a MFR frequency inverter with power regeneration it provides the perfect preconditions for energy-efficient operation.

* The on-site construction of the elevator shaft must meet the requirements of VDI 2566 SST II/III.

Safety

- System in accordance with EN 81-20/-50, for commencement of operation per individual inspection with EU Type Test Certificate as basis

Efficiency

- Modern, highly efficient gearless machine (PMC / DAF gearless)
- Variable frequency control (VVVF), with power regeneration (optional)
- Energy-saving LED lighting as an option

Reliability

- Equipped with robust and only high quality, long-life components and premium materials

Design

- Classic design (VERTICAL)
- Unique, high-quality Uni-Colour design (STYLE, CHIC, ELEGANT)
- A wide range of combination possibilities
- Invisible car ventilation system
- Millimetre-adjustment of the car
- Glass doors and glass elevator car available

Comfort

- Increased available car area
- Low noise (complies with VDI 2566 SST II/III)*
- Smooth running
- Well-being atmosphere

Scope of supply

- Broad range of uses
- High number of options

Flexibility

- Configurable into an elevator system from your company by deploying your preferred control system and the operating and indicator elements you wish to have.

New standards EN 81-20 and EN 81-50

Up until now, traction and hydraulic lifts were designed and put into service in accordance with EN 81-1 / -2. Both standards have been revised and are being replaced with the new standards EN 81-20 and -50.

The new standards contain expanded safety requirements which correspond to the current state of technology. A transitional period is in effect until 31 August 2017; after that time lifts may only be placed on the market in accordance with EN 81-20/-50.

Customer benefits by to EN 81-20/-50

- + Incorporation of further developments with respect to the current state of the technology (e.g., shortened buffer stroke)
- + Greater investment security (longer grandfathering under current legislation through application of the latest state of engineering)



Not included in the scope of supply of the LEA® Comfort are:

Control system, control box with measures for rescue of passengers, operating and indicator elements, external control panels, mounted resp. built-in control panel in the elevator car, emergency call system, car distribution box, travelling cable, shaft selector, shaft wiring, shaft lighting, inspection control and emergency stop switch, integration of the inverter, connection of the car lighting and the overload sensor, load measurement system.

Energy efficiency

With LEA® Comfort you can configure an elevator system that achieves a high energy efficiency class. You thereby make a significant contribution to the reduction of ongoing operating and energy costs and lowering CO₂ emissions.



Double-panel telescopic opening door thyssenkrupp S8A/K8A (M2T) and Fermator (optional)

Rated load (Q)	(kg)	450 kg				630 kg							
		1.0		1.6		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		40		60		80		100	
Number of passengers		6		6		8		8		8		8	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1000		1000		1100		1100		1100		1100	
Car depth CD ^{1) 3)}	(mm)	1250		1250		1400		1400		1400		1400	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700							
Max. weight of car	(kg)	900				1260							
Door width DW ^{4) 10)}	(mm)	800 – 1000				800 – 1100							
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500							
Shaft width SW ⁶⁾	(mm)	1510		1517		1610		1617		1664		1739	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1650	1890	1650	1890	1800	2040	1800	2040	1800	2040	1800	2040
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	1595	1780	1595	1780	1745	1930	1745	1930	1745	1930	On request	
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	1550	1690	1550	1690	1700	1840	1700	1840	Available on request			
Shaft headroom height [CH = 2100]	(mm)	3300		3500		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		1100		1200		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	800 kg				1000 kg (depth)											
		1.0		1.6		1.0		1.6		2.0		2.5					
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80		100	
Number of passengers		10		10		10		10		13		13		13		13	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1350		1350		1350 ⁸⁾		1350		1100		1100		1100		1100	
Car depth CD ^{1) 3)}	(mm)	1400		1400		1400 ⁸⁾		1400		2100		2100		2100		2100	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700											
Max. weight of car	(kg)	1600				2000											
Door width DW ^{4) 10)}	(mm)	800 – 1300				800 – 1100											
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500											
Shaft width SW ⁶⁾	(mm)	1850		1867 ⁸⁾		1989		1610		1617		1664		1725			
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1800	2040	1800	2040	⁸⁾	⁸⁾	1800	2040	2500	2740	2500	2740	2500	2740	2500	2740
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	1745	1930	1745	1930	⁸⁾	⁸⁾	On request	2445	2630	2445	2630	2445	2630	2445	2630	
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	1700	1840	1700	1840	⁸⁾	⁸⁾	On request	2400	2540	2400	2540	2400	2540	2400	2540	
Shaft headroom height [CH = 2100]	(mm)	3300		3500		⁸⁾		4290		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		⁸⁾		1950		1100		1200		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		⁸⁾		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	1000 kg (width)				1250 kg											
		1.0		1.6		1.0		1.6		2.0		2.5					
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80		100	
Number of passengers		13		13		13		13		16		16		16		16	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1600		1600		1600 ⁸⁾		1600		1200		1200		1200		1200	
Car depth CD ^{1) 3)}	(mm)	1400		1400		1400 ⁸⁾		1400		2300		2300		2300		2300	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700											
Max. weight of car	(kg)	2000				2200											
Door width DW ^{4) 10)}	(mm)	800 – 1400				800 – 1400											
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500											
Shaft width SW ⁶⁾	(mm)	2110		2117 ⁸⁾		2239		1730		1747		1839		1839			
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1800	2040	1800	2040	⁸⁾	⁸⁾	1800	2040	2700	2940	2700	2940	2700	2940	2700	2940
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	1745	1930	1745	1930	⁸⁾	⁸⁾	On request	2645	2830	2645	2830	2645	2830	2645	2830	
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	1700	1840	1700	1840	⁸⁾	⁸⁾	On request	2600	2740	2600	2740	2600	2740	2600	2740	
Shaft headroom height [CH = 2100]	(mm)	3300		3500		⁸⁾		4290		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		⁸⁾		1950		1150		1250		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		⁸⁾		2590		2590		2590		2590		2590	

Technical overview

Technical overview

Double-panel telescopic opening door thyssenkrupp S8A/K8A (M2T) and Fermator (optional)



Rated load (Q)	(kg)	1600 kg								2000 kg							
		1.0		1.6		2.0		2.5		1.0		1.6		2.0			
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0			
Max. travel height (TH)	(m)	40		60		80		100		40		60		80			
Number of passengers		20		20		20		20		26		26		26			
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes		
Max. number of landings		16		20		30		40		16		20		30			
Car width CW ^{1) 2)}	(mm)	1400		1400		1400		1400		1500		1500		1500			
Car depth CD ^{1) 3)}	(mm)	2400		2400		2400		2400		2700		2700		2700			
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700								2100 – 2700							
Max. weight of car	(kg)	2200								4200							
Door width DW ^{4) 10)}	(mm)	800 – 1400								800 – 1400							
Door height DH ⁵⁾	(mm)	2000 – 2500								2000 – 2500							
Shaft width SW ⁶⁾	(mm)	2275		2282		2306		2306		2405		2405		2417			
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	2800	3040	2800	3040	2800	3040	2800	3040	3100	3340	3100	3340	3100	3340		
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	2745	2930	2745	2930	2745	2930	2745	2930	3045	3230	3045	3230	3045	3230		
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	2700	2840	2700	2840	2700	2840	2700	2840	3000	3140	3000	3140	3000	3140		
Shaft headroom height [CH = 2100]	(mm)	3300		3500		4055		4290		3700		3855		4055			
Shaft pit depth	(mm)	1150		1250		1500		1950		1250		1350		1500			
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590		2590			

Rated load (Q)	(kg)	2500 kg				3000 kg				3500 kg				4000 kg			
		1.0		1.6		1.0		1.6		1.0		1.6		1.0		1.6	
Speed (v)	(m/s)	1.0		1.6		1.0		1.6		1.0		1.6		1.0		1.6	
Max. travel height (TH)	(m)	40		60		40		60		40		60		40		60	
Number of passengers		33		33		40		40		46		46		53		53	
Dual entrance		No	Yes	No	Yes												
Max. number of landings		16		20		16		20		16		16		16		16	
Car width CW ^{1) 2)}	(mm)	1800		1800		2000		2000		2100		2100		2400		2400	
Car depth CD ^{1) 3)}	(mm)	2700		2700		2800		2800		3050		3050		2900		2900	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700				2100 – 2700				2100 – 2700			
Max. weight of car	(kg)	4200				4200				4200				4200			
Door width DW ^{4) 10)}	(mm)	800 – 1400				800 – 1400				800 – 1400				800 – 1400			
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500				2000 – 2500				2000 – 2500			
Shaft width SW ⁶⁾	(mm)	2460		2472		2660		2672		2760		2760		3080		3080	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	3110	3340	3110	3340	3210	3440	3210	3440	3460	3690	3310	3540	3310	3540	3310	3540
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	3055	3230	3055	3230	3155	3330	3155	3330	3405	3580	3255	3430	3255	3430	3255	3430
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	3010	3140	3010	3140	3110	3240	3110	3240	3360	3490	3210	3340	3210	3340	3210	3340
Shaft headroom height [CH = 2100]	(mm)	3700		3855		3700		3855		3700		3700		3700		3700	
Shaft pit depth	(mm)	1300		1500		1300		1500		1300		1300		1300		1300	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590		2590		2590	

¹⁾ Preferred dimensions, car dimensions variable in 1-mm-steps
²⁾ CW_{min.} = 1000 mm (Q = 450 – 1000 kg), CW_{min.} = 1100 mm (Q > 1000 – 1600 kg), CW_{min.} = 1200 mm (Q > 1600 – 2000 kg), CW_{min.} = 1600 mm (Q > 2000 – 2500 kg), CW_{min.} = 1700 mm (Q > 2500 kg – 4000 kg) at v = 1.0/1.6 m/s (higher speeds are to be tested). Details refer to elevator cars with one-sided access.
³⁾ CD_{min.} = 1250 mm (Q = 450 kg), CD_{min.} = 1400 mm (Q = 630 – 1600 kg), CD_{min.} = 1800 mm (Q > 1600 – 2000 kg), CD_{min.} = 2500 mm (Q > 2000 – 2500 kg), CD_{min.} = 2600 mm (Q > 2500 kg – 4000 kg) at v = 1.0/1.6 m/s (higher speeds are to be tested). Details refer to elevator cars with one-sided access.
⁴⁾ With corresponding CW, DW at M2T possible to max. 1400 mm.
⁵⁾ Availability of the door height dependent on the door width. With door in shaft front wall (steel plate door, glass door), please bear in mind the available door heights: see page 12.
⁶⁾ Based on standard door with DW = 800 mm, Q = 630 – 1250 kg; DW = 1300 mm, Q = 1600 kg; DW = 1400 mm, Q = 2000 – 4000 kg and the omission of car door locking device (SA27). Reduction of the shaft width through the use of a narrow counterweight. In the rated load range Q = 450 – 1000 kg; v = 1.0 m/s; TH ≤ 30 m; CD_{min.} = 1250 mm (Q = 450 kg); CD_{min.} = 1400 mm (Q = 630 - 1000 kg). Only possible in combination with versions: sliding guide on counterweight and without safety gear on counterweight.
⁷⁾ Based on preferred dimensions of CD. With rated loads Q = 630 kg/800 kg and 1000 kg (wide) and doors in recesses, an order-related examination is required.
⁸⁾ Elevator car / shaft dimensions according to DIN ISO available on request.
⁹⁾ Min. 200 mm with displaced open through.
¹⁰⁾ The following information applies only to landing door with shaft front wall: model landing door Fermator "40/10 (T2)" respectively Fermator "Premium (T2)", model car door Fermator "Premium PM (T2)"; DW = 700 – 1400 mm; installation is possible either directly in the shaft or in deep recess = 115 mm. With glass door in shaft front wall, the available door heights are restricted (see page 12).
¹¹⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.

Double-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load (Q)	(kg)	450 kg				630 kg							
		1.0		1.6		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		40		60		80		100	
Number of passengers		6		6		8		8		8		8	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1000		1000		1100		1100		1100		1100	
Car depth CD ^{1) 3)}	(mm)	1250		1250		1400		1400		1400		1400	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700							
Max. weight of car	(kg)	900				1260							
Door width DW ⁴⁾	(mm)	800 – 1000				800 – 1100							
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500							
Shaft width SW ⁶⁾	(mm)	1760		1760		1960		1960		1960		1977	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1590	1770	1590	1770	1740	1920	1740	1920	1740	1920	1740	1920
Shaft depth SD – door in recess (20) ⁷⁾	(mm)	1575	1740	1575	1740	1725	1890	1725	1890	1725	1890	On request	
Shaft depth SD – door in recess (60) ^{7) 10)}	(mm)	1530	1650	1530	1650	1680	1800	1680	1800	Available on request			
Shaft headroom height [CH = 2100]	(mm)	3300		3500		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		1100		1200		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	800 kg				1000 kg (depth)											
		1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80		100	
Number of passengers		10		10		10		10		13		13		13		13	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1350		1350		1350 ⁸⁾		1350		1100		1100		1100		1100	
Car depth CD ^{1) 3)}	(mm)	1400		1400		1400 ⁸⁾		1400		2100		2100		2100		2100	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700											
Max. weight of car	(kg)	1600				2000											
Door width DW ⁴⁾	(mm)	800 – 1300				800 – 1100											
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500											
Shaft width SW ⁶⁾	(mm)	2015		2022		2102		2102		1960		1960		1960		1977	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1740	1920	1740	1920	⁸⁾	⁸⁾	1740	1920	2440	2620	2440	2620	2440	2620	2440	2620
Shaft depth SD – door in recess (20) ⁷⁾	(mm)	1725	1890	1725	1890	⁸⁾	⁸⁾	On request	On request	2425	2590	2425	2590	2425	2590	2425	2590
Shaft depth SD – door in recess (60) ^{7) 10)}	(mm)	1680	1800	1680	1800	⁸⁾	⁸⁾	On request	On request	2380	2500	2380	2500	2380	2500	2380	2500
Shaft headroom height [CH = 2100]	(mm)	3300		3500		⁸⁾		4290		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		⁸⁾		1950		1100		1200		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		⁸⁾		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	1000 kg (width)				1250 kg											
		1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80		100	
Number of passengers		13		13		13		13		16		16		16		16	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1600		1600		1600 ⁸⁾		1600		1200		1200		1200		1200	
Car depth CD ^{1) 3)}	(mm)	1400		1400		1400 ⁸⁾		1400		2300		2300		2300		2300	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700											
Max. weight of car	(kg)	2000				2200											
Door width DW ⁴⁾	(mm)	800 – 1400				800 – 1400											
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500											
Shaft width SW ⁶⁾	(mm)	2110		2117		⁸⁾		2239		1730		1747		1839		1839	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1800	1920	1740	1920	⁸⁾											

Technical overview

Technical overview

Double-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load (Q)	(kg)	1600 kg				2000 kg									
		1.0		1.6		2.0		2.5		1.0		1.6		2.0	
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80	
Number of passengers		20		20		20		20		26		26		26	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30	
Car width CW ^{1) 2)}	(mm)	1400		1400		1400		1400		1500		1500		1500	
Car depth CD ^{1) 3)}	(mm)	2400		2400		2400		2400		2700		2700		2700	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700									
Max. weight of car	(kg)	2200				4200									
Door width DW ⁴⁾	(mm)	800 – 1400				800 – 1400									
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500									
Shaft width SW ⁶⁾	(mm)	2360		2360		2360		2360		2960		2960		2960	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	2740	2920	2740	2920	2740	2920	2740	2920	3040	3220	3040	3220	3040	3220
Shaft depth SD – door in recess (20) ⁷⁾	(mm)	2725	2890	2725	2890	2725	2890	2725	2890	3025	3190	3025	3190	3025	3190
Shaft depth SD – door in recess (60) ^{7) 10)}	(mm)	2680	2800	2680	2800	2680	2800	2680	2800	2980	3100	2980	3100	2980	3100
Shaft headroom height [CH = 2100]	(mm)	3300		3500		4055		4290		3700		3855		4055	
Shaft pit depth	(mm)	1150		1250		1500		1950		1250		1350		1500	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	2500 kg				3000 kg				3500 kg		4000 kg	
		1.0		1.6		1.0		1.6		1.0		1.0	
Speed (v)	(m/s)	1.0		1.6		1.0		1.6		1.0		1.0	
Max. travel height (TH)	(m)	40		60		40		60		40		40	
Number of passengers		33		33		40		40		46		53	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		16		20		16		16	
Car width CW ^{1) 2)}	(mm)	1800		1800		2000		2000		2100		2400	
Car depth CD ^{1) 3)}	(mm)	2700		2700		2800		2800		3050		2900	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700				2100 – 2700		2100 – 2700	
Max. weight of car	(kg)	4200				4200				4200		4200	
Door width DW ⁴⁾	(mm)	800 – 1400				800 – 1400				800 – 1400		800 – 1400	
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500				2000 – 2500		2000 – 2500	
Shaft width SW ⁶⁾	(mm)	2960		2960		2960		2960		3010		3160	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	3040	3220	3040	3220	3150	3320	3150	3320	3400	3570	3250	3420
Shaft depth SD – door in recess (20) ⁷⁾	(mm)	3025	3190	3025	3190	3135	3290	3135	3290	3385	3540	3235	3390
Shaft depth SD – door in recess (60) ^{7) 10)}	(mm)	2980	3100	2980	3100	3090	3200	3090	3200	3340	3450	3190	3300
Shaft headroom height [CH = 2100]	(mm)	3700		3855		3700		3855		3700		3700	
Shaft pit depth	(mm)	1300		1500		1300		1500		1300		1300	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590	

¹⁾ Preferred dimensions, car dimensions variable in 1-mm-steps
²⁾ CW_{min} = 1000 mm (Q = 450 – 1000 kg), CW_{min} = 1100 mm (Q > 1000 – 1600 kg), CW_{min} = 1200 mm (Q > 1600 – 2000 kg), CW_{min} = 1600 mm (Q > 2000 – 2500 kg), CW_{min} = 1700 mm (Q > 2500 kg – 4000 kg) at v = 1.0/1.6 m/s (higher speeds are to be tested). Details refer to elevator cars with one-sided access.
³⁾ CD_{min} = 1250 mm (Q = 450 kg), CD_{min} = 1400 mm (Q = 630 – 1600 kg), CD_{min} = 1800 mm (Q > 1600 – 2000 kg), CD_{min} = 2500 mm (Q > 2000 – 2500 kg), CD_{min} = 2600 mm (Q > 2500 kg – 4000 kg) at v = 1.0/1.6 m/s (higher speeds are to be tested). Details refer to elevator cars with one-sided access.
⁴⁾ With corresponding CW, DW at M2Z possible to max. 1400 mm.
⁵⁾ Availability of the door height dependent on the door width. With door in shaft front wall (steel plate door, glass door), please bear in mind the available door heights: see page 12.
⁶⁾ Based on standard door with DW = 800 mm, Q = 630 – 1250 kg; DW = 1300 mm, Q = 1600 kg; DW = 1400 mm, Q = 2000 – 4000 kg and the omission of car door locking device (SA27). Reduction of the shaft width through the use of a narrow counterweight. In the rated load range Q = 450 – 1000 kg; v = 1.0 m/s; TH ≤ 30 m; CD_{min} = 1250 mm (Q = 450 kg); CD_{min} = 1400 mm (Q = 630 - 1000 kg). Only possible in combination with versions: sliding guide on counterweight and without safety gear on counterweight.
⁷⁾ Based on preferred dimensions of CD. With rated loads Q = 630 kg/800 kg and 1000 kg (wide) and doors in recesses, an order-related examination is required.
⁸⁾ Elevator car / shaft dimensions according to DIN ISO available on request.
⁹⁾ Min. 200 mm with displaced open through.
¹⁰⁾ The following information applies only to landing door with shaft front wall: model landing door Fermator "40/10 (C2)", model car door Fermator "Premium PM (C2)"; DW = 700 – 1400 mm; installation is possible either directly in the shaft or in deep recess = 65 mm. With glass door in shaft front wall, the available door heights are restricted (see page 12).
¹¹⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load (Q)	(kg)	450 kg				630 kg							
		1.0		1.6		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		40		60		80		100	
Number of passengers		6		6		8		8		8		8	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1000		1000		1100		1100		1100		1100	
Car depth CD ^{1) 3)}	(mm)	1250		1250		1400		1400		1400		1400	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700							
Max. weight of car	(kg)	900				1260							
Door width DW ^{4) 10)}	(mm)	800 – 1000				800 – 1100							
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500							
Shaft width SW ⁶⁾	(mm)	1540		1547		1665		1672		1692		1752	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1650	1890	1650	1890	1800	2040	1800	2040	1800	2040	1800	2040
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	1595	1780	1595	1780	1745	1930	1745	1930	1745	1930	1745	1930
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	1550	1690	1550	1690	1700	1840	1700	1840	1700	1840	1700	1840
Shaft headroom height [CH = 2100]	(mm)	3300		3500		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		1100		1200		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	800 kg				1000 kg (depth)											
		1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80		100	
Number of passengers		10		10		10		10		13		13		13		13	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1350		1350		1350 ⁸⁾		1350		1100		1100		1100		1100	
Car depth CD ^{1) 3)}	(mm)	1400		1400		1400 ⁸⁾		1400		2100		2100		2100		2100	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700											
Max. weight of car	(kg)	1600				2000											
Door width DW ^{4) 10)}	(mm)	800 – 1300				800 – 1100											
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500											
Shaft width SW ⁶⁾	(mm)	1850		1864		1989		1665		1672		1692		1752			
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1800	2040	1800	2040	⁸⁾	1800	2040	2500	2740	2500	2740	2500	2740			
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	1745	1930	1745	1930	⁸⁾	On request	2445	2630	2445	2630	2445	2630	2445	2630		
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	1700	1840	1700	1840	⁸⁾	On request	2400	2540	2400	2540	2400	2540	2400	2540		
Shaft headroom height [CH = 2100]	(mm)	3300		3500		⁸⁾		4290		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		⁸⁾		1950		1100		1200		1500		1950	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		⁸⁾		2590		2590		2590		2590		2590	

Rated load (Q)	(kg)	1000 kg (width)				1250 kg											
		1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0		2.5	
Max. travel height (TH)	(m)	40		60		80		100		40		60		80		100	
Number of passengers		13		13		13		13		16		16		16		16	
Dual entrance		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width CW ^{1) 2)}	(mm)	1600		1600		1600 ⁸⁾		1600		1200		1200		1200		1200	
Car depth CD ^{1) 3)}	(mm)	1400		1400		1400 ⁸⁾		1400		2300		2300		2300		2300	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700				2100 – 2700											
Max. weight of car	(kg)	2000				2200											
Door width DW ^{4) 10)}	(mm)	800 – 1400				800 – 1400											
Door height DH ⁵⁾	(mm)	2000 – 2500				2000 – 2500											
Shaft width SW ⁶⁾	(mm)	2100		2114		⁸⁾		2239		1730		1744		1839		1839	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	1800	2040	1800	2040	⁸⁾	1800	2040	2700	2940	2700	2940	2700	2940	2700	2940	
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	1745	1930	1745	1930	⁸⁾	on request	2645	2830	2645	2830	2645	2830	2645	2830		
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	1700	1840	1700	1840	⁸⁾	on request	2600	2740	2600	2740	2600	2740	2600	2740		
Shaft headroom height [CH = 2100]	(mm)	3300		3500		⁸⁾		4290		3300		3500		4055		4290	
Shaft pit depth	(mm)	1100		1200		⁸⁾		1950		1150</							

Technical overview

Technical overview I

LEA® Comfort

LEA® Comfort

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load (Q)	(kg)	1600 kg								2000 kg							
		1.0		1.6		2.0		2.5		1.0		1.6		2.0			
Speed (v)	(m/s)	1.0		1.6		2.0		2.5		1.0		1.6		2.0			
Max. travel height (TH)	(m)	40		60		80		100		40		60		80			
Number of passengers		20		20		20		20		26		26		26			
Dual entrance		No	Yes														
Max. number of landings		16		20		30		40		16		20		30			
Car width CW ^{1) 2)}	(mm)	1400		1400		1400		1400		1500		1500		1500			
Car depth CD ^{1) 3)}	(mm)	2400		2400		2400		2400		2700		2700		2700			
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700			
Max. weight of car	(kg)	2200		2200		2200		2200		4200		4200		4200			
Door width DW ^{4) 10)}	(mm)	800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400			
Door height DH ⁵⁾	(mm)	2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500			
Shaft width SW ⁶⁾	(mm)	2125		2132		2202		2202		2320		2320		2332			
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	2800	3040	2800	3040	2800	3040	2800	3040	3100	3340	3100	3340	3100	3340		
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	2745	2930	2745	2930	2745	2930	2745	2930	3045	3230	3045	3230	3045	3230		
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	2700	2840	2700	2840	2700	2840	2700	2840	3000	3140	3000	3140	3000	3140		
Shaft headroom height [CH = 2100]	(mm)	3300		3500		4055		4290		3700		3855		4055			
Shaft pit depth	(mm)	1150		1250		1500		1950		1250		1350		1500			
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590		2590			

Rated load (Q)	(kg)	2500 kg				3000 kg				3500 kg				4000 kg			
		1.0		1.6		1.0		1.6		1.0		1.6		1.0		1.6	
Speed (v)	(m/s)	1.0		1.6		1.0		1.6		1.0		1.6		1.0		1.6	
Max. travel height (TH)	(m)	40		60		40		60		40		60		40		60	
Number of passengers		33		33		40		40		46		46		53		53	
Dual entrance		No	Yes														
Max. number of landings		16		20		16		20		16		20		16		20	
Car width CW ^{1) 2)}	(mm)	1800		1800		2000		2000		2100		2100		2400		2400	
Car depth CD ^{1) 3)}	(mm)	2700		2700		2800		2800		3050		3050		2900		2900	
Car height (rough height) CH ¹¹⁾	(mm)	2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700		2100 – 2700	
Max. weight of car	(kg)	4200		4200		4200		4200		4200		4200		4200		4200	
Door width DW ^{4) 10)}	(mm)	800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400		800 – 1400	
Door height DH ⁵⁾	(mm)	2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500		2000 – 2500	
Shaft width SW ⁶⁾	(mm)	2490		2496		2660		2672		2780		2780		3080		3080	
Shaft depth SD – door in shaft ^{7) 10)}	(mm)	3100	3340	3100	3340	3210	3440	3210	3440	3460	3690	3460	3690	3310	3540	3310	3540
Shaft depth SD – door in recess (55) ⁷⁾	(mm)	3045	3230	3045	3230	3155	3330	3155	3330	3405	3580	3405	3580	3255	3430	3255	3430
Shaft depth SD – door in recess (100) ^{7) 10)}	(mm)	3000	3140	3000	3140	3110	3240	3110	3240	3360	3490	3360	3490	3210	3340	3210	3340
Shaft headroom height [CH = 2100]	(mm)	3700		3855		3700		3855		3700		3700		3700		3700	
Shaft pit depth	(mm)	1300		1500		1300		1500		1300		1300		1300		1300	
Min. height between floors [DH + 590] ⁹⁾	(mm)	2590		2590		2590		2590		2590		2590		2590		2590	

¹⁾ Preferred dimensions, car dimensions variable in 1-mm-steps
²⁾ CW_{min.} = 1000 mm (Q = 450 – 1000 kg), CW_{min.} = 1100 mm (Q > 1000 – 1600 kg), CW_{min.} = 1200 mm (Q > 1600 – 2000 kg), CW_{min.} = 1600 mm (Q > 2000 – 2500 kg), CW_{min.} = 1700 mm (Q > 2500 kg – 4000 kg) at v = 1.0/1.6 m/s (higher speeds are to be tested). Details refer to elevator cars with one-sided access.
³⁾ CD_{min.} = 1250 mm (Q = 450 kg), CD_{min.} = 1400 mm (Q = 630 – 1600 kg), CD_{min.} = 1800 mm (Q > 1600 – 2000 kg), CD_{min.} = 2500 mm (Q > 2000 – 2500 kg), CD_{min.} = 2600 mm (Q > 2500 kg – 4000 kg) at v = 1.0/1.6 m/s (higher speeds are to be tested). Details refer to elevator cars with one-sided access.
⁴⁾ With corresponding CW, DW at M4TZ possible to max. 1400 mm.
⁵⁾ Availability of the door height dependent on the door width. With door in shaft front wall (steel plate door, glass door), please bear in mind the available door heights: see page 12.
⁶⁾ Based on standard door with DW = 800 mm, Q = 450 kg; DW = 900 mm, Q = 630 – 1250 kg; DW = 1300 mm, Q = 1600 kg; DW = 1400 mm, Q = 2000 – 4000 kg and the omission of car door locking device (SA27). Reduction of the shaft width through the use of a narrow counterweight. In the rated load range Q = 450 – 1000 kg; v = 1.0 m/s; TH ≤ 30 m; CD_{min.} = 1250 mm (Q = 450 kg); CD_{min.} = 1400 mm (Q = 630 - 1000 kg). Only possible in combination with versions: sliding guide on counterweight and without safety gear on counterweight.
⁷⁾ Based on preferred dimensions of CD. With rated loads Q = 630 kg/800 kg and 1000 kg (wide) and doors in recesses, an order-related examination is required.
⁸⁾ Elevator car / shaft dimensions according to DIN ISO available on request.
⁹⁾ Min. 200 mm with displaced open through.
¹⁰⁾ The following information applies only to landing door with shaft front wall: model landing door Fermator "40/10 (C4)", model car door Fermator "Premium PM (C4)"; DW = 900 – 2400 mm; installation is possible either directly in the shaft or in deep recess = 115 mm. With glass door in shaft front wall, the available door heights are restricted (see page 12).
¹¹⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.

Rated load (Q)	450 kg				630 kg			
	Gearless synchronous drive, frequency-controlled (V3F)							
Speed (m/s)	1.0		1.6		1.0		1.6	
Drive type	PMC145M		PMC145XM		PMC145M ⁴⁾		PMC145XM ⁴⁾	
Weight of the drive (kg)	172		189		172		189	
Max. number of trips per hour ²⁾	180 s/h							

Rated load (Q)	800 kg				1000 kg (depth/width)			
	Gearless synchronous drive, frequency-controlled (V3F)							
Speed (m/s)	1.0		1.6		2.0		2.5	
Drive type	PMC145L ⁴⁾		PMC145XL ⁴⁾		DAF210 L		DAF270 M	
Weight of the drive (kg)	216		229		320		570	
Max. number of trips per hour ²⁾	180 s/h							

Rated load (Q)	1250 kg				1600 kg			
	Gearless synchronous drive, frequency-controlled (V3F)							
Speed (m/s)	1.0		1.6		2.0		2.5	
Drive type	DAF210L ⁵⁾		DAF210L ⁵⁾		DAF270 M		DAF270 M	
Weight of the drive (kg)	320		320		570		570	
Max. number of trips per hour ²⁾	180 s/h							

Rated load (Q)	2000 kg		2500 kg		3000 kg		3500 kg	
	Gearless synchronous drive, frequency-controlled (V3F)							
Speed (m/s)	1.0 and 1.6		2.0		1.0		1.6	
Drive type	DAF 270 L / M ³⁾		DAF 270 L		DAF 270 L		DAF 270 L	
Weight of the drive (kg)	740		740		740		740	
Max. number of trips per hour ²⁾	180 s/h							

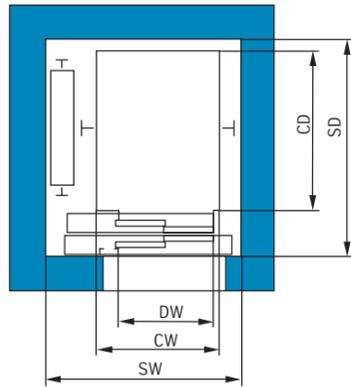
Rated load (Q)	4000 kg	
Drive	Gearless synchronous drive, frequency-controlled (V3F)	
Speed (m/s)	1.0	
Drive type	DAF 270 L	
Weight of the drive (kg)	740	
Max. number of trips per hour ²⁾	180 s/h	

¹⁾ An inverter with power regeneration (type MFR) is optionally available.
²⁾ Higher number of trips possible on request.
³⁾ Drive DAF270M at v = 1.0 m/s possible depending on travel height and car weight.
⁴⁾ Drive DAF210 possible depending on the shaft geometry.
⁵⁾ Drive DAF210L with cabin weight ≤ 1950 kg; Drive PMC170M/L with cabin weight > 1950 kg

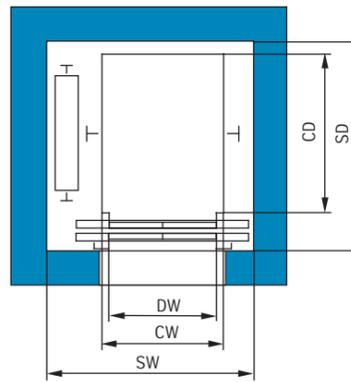
Technical overview I

Technical overview I

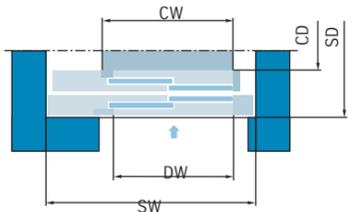
Car entrance with telescopic door (M2T) (1 entrance)



Car entrance with centre-opening door (M2Z) (1 entrance)

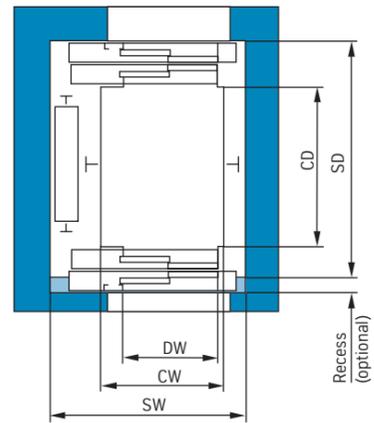


Landing door installation directly in the shaft

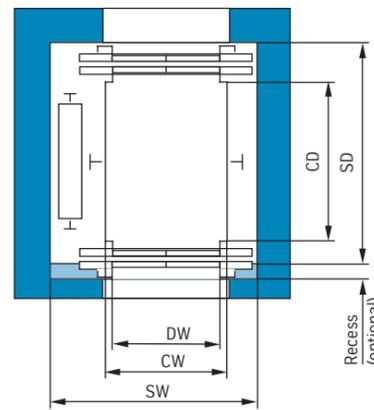


The landing door is fastened to the shaft wall by means of brackets. The brackets are secured to the wall with either drill fixing or with securing bolts on anchor rails (measurement in concrete according to CEN/TS 1992-4:2009) (only available for S8A) that are cast into the shaft wall or welded onto a shaft steel structure.

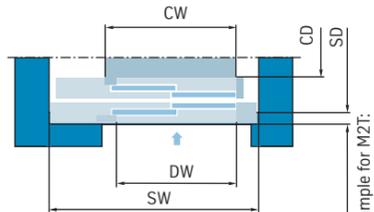
Car entrance with telescopic door (M2T) and recess (open through entrance)



Car entrance with centre-opening door (M2Z) and recess (open through entrance)



Landing door installation in the recess

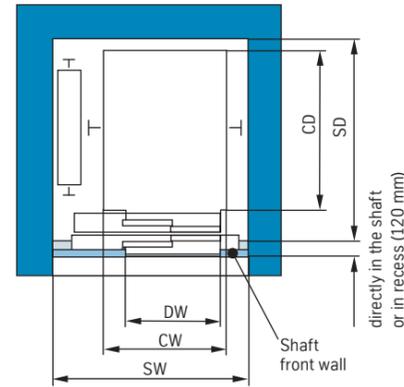


In the interest of economical utilisation of space, the landing door can optionally be installed in a recess.

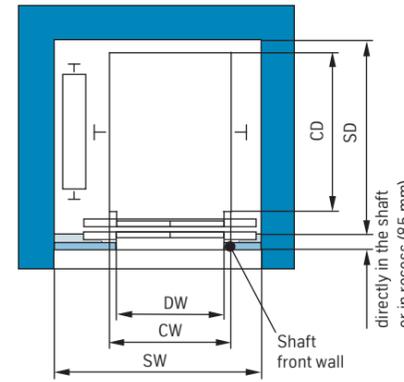
Depth of the recess (optional):

- M2T 55 mm / 100 mm
- M2Z 20 mm / 60 mm
- M4TZ 55 mm / 100 mm

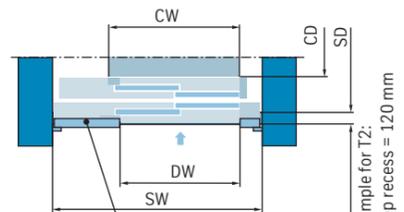
Car entrance with telescopic door Fermator (T2) and shaft front wall with gap cover (1 entrance)



Car entrance with centre-opening door Fermator (C2) and shaft front wall with gap cover (1 entrance)



Landing door installation (Fermator model "40/10" or "Premium") in shaft front wall



Optionally, the landing door are fitted with shaft front wall (fire protection certificate E 120). The S8A / K8A is not used. Model landing door: Fermator "40/10" or "Premium" Model car door: Fermator "Premium PM"; Versions: steel plate door, glass door. Installation is possible either directly in the shaft or in deep recess:
 - T2 (comparable M2T), recess* = 120 mm
 - C2 (comparable M2Z), recess* = 85 mm
 - C4 (comparable M4TZ), recess* = 120 mm
 * Doorframe FD = 60 mm

Key: CW = car width, SW = shaft width, CD = car depth, SD = shaft depth, DW = door width

Door model thyssenkrupp S8A / K8A: dimensions

Door type M2T



- Installation options:
- directly in the shaft
 - in recess 55 mm
 - in recess 100 mm

Door type M2Z



- Installation options:
- directly in the shaft
 - in recess 20 mm
 - in recess 60 mm

Door type M4TZ



- Installation options:
- directly in the shaft
 - in recess 55 mm
 - in recess 100 mm

Notes:

- The comfort door "S8A / K8A" offers a very wide range of versions and options. This enables individual adaptation to design requirements in the building. A version with shaft front wall is not available.
- For the landing doors, there are numerous fire protection certificates in accordance with EN 81-58, GHOST and BS476. The glass doors have no fire protection certificate.
- There are many varied versions of the landing and car door including glass door frame.
- The glass door panels are designed with a surrounding frame, without offset between the glass and frame. Solid glass door panels are also available.
- The car door can be equipped with different systems for closing monitoring.
- The range of available versions can be found in the options list as of page 32/33 and in detail in the brochure "Comfort door S8A / K8A".
- For technical reasons, not all combination possibilities are possible for doors with respect to door designs, door widths and door heights. For details, please refer to the appropriate technical documents
- For the standard configurations of the LEA® Comfort system not all door dimensions are shown. The larger range of door dimensions – as specified here – is technically possible.

[mm]	Door width		
Door height	Steel plate door	Glass door (SA31/33)	Solid glass door (SA41)
	EN 81-20/50		
2000	700 – 1400	700 – 1200	
2100		700 – 1200	700 – 1150
2200	800 – 1400	800 – 1200	800 – 1100
2300		800 – 1200	800 – 1100
2400	900 – 1400	900 – 1200	
2500		900 – 1200	

DH and DW in the grade of 100 mm, optional in the grade of 50 mm (SA 20).

[mm]	Door width		
Door height	Steel plate door	Glass door (SA31/33)	Solid glass door (SA41)
	EN 81-20/50		
2000	700 – 1400	700 – 1200	
2100		700 – 1200	700 – 1150
2200	800 – 1400	800 – 1200	800 – 1100
2300		800 – 1200	800 – 1100
2400	900 – 1400	900 – 1200	
2500		900 – 1200	

DH and DW in the grade of 100 mm, optional in the grade of 50 mm (SA 20).

[mm]	Door width		
Door height	Steel plate door	Glass door (SA31/33)	Solid glass door (SA41)
	EN 81-20/50		
2000	800 – 2500	1300 – 2200	1400 – 2200
2100		1000 – 2500	
2200	1200 – 2500	1300 – 2200	1600 – 2200
2300		1400 – 2500	1400 – 2200
2400	1500 – 2500	1600 – 2200	
2500		1600 – 2200	

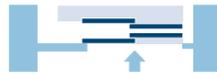
DH and DW in the grade of 100 mm, optional in the grade of 50 mm to DW ≤ 1400 mm (SA 20).

Technical overview I

Technical overview II

Door model Fermator "40/10" and/or "Premium" and "Premium PM": dimensions

Door type T2 in shaft front wall



- Installation options:
- directly in the shaft
 - in recess 120 mm¹⁾

[mm]	Door width			
Door height	Steel plate door		Glass door with frame	
	EN 81-20/50		EN 81-20/50	
2000	700 – 1200 ^{1) 3)}	1300 – 1400 ^{2) 3)}	700 – 1200 ^{1) 3)}	1300 – 1400 ^{2) 3)}
2100				
2200				
2300				
2400				
2500				

DH and DW in the grade of 100 mm.
¹⁾ Landing door "40/10" ²⁾ Landing door "Premium" ³⁾ Car door "Premium PM"

Door type C2 in shaft front wall

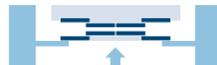


- Installation options:
- directly in the shaft
 - in recess 85 mm¹⁾

[mm]	Door width	
Door height	Steel plate door	Glass door with frame
	EN 81-20/50	
2000	700 – 1400 ^{1) 3)}	
2100		
2200		
2300		
2400		
2500		

DH and DW in the grade of 100 mm.
¹⁾ Landing door "40/10" ³⁾ Car door "Premium PM"

Door type C4 in shaft front wall



- Installation options:
- directly in the shaft
 - in recess 120 mm¹⁾

1) Doorframe FD = 60 mm

[mm]	Door width	
Door height	Steel plate door	Glass door with frame
	EN 81-20/50	
2000	900 – 2400 ^{1) 3)}	
2100		
2200		
2300		
2400		
2500		

DH and DW in the grade of 100 mm.
¹⁾ Landing door "40/10" ³⁾ Car door "Premium PM"

Notes:

- The landing doors "40/10" and "Premium" are available exclusively in shaft front wall.
- The shaft front wall has the fire protection certificate E120 according to EN 81-58. The glass doors have no fire protection certificate.
- Design variants of the landing / car door, including glass door frame and the shaft front wall: powder-coated RAL 7032 gravel grey, stainless steel grain 220 / Linen / Leather.
- The glass door panels are designed with a surrounding frame, without offset between the glass and frame. Visible frame width: 120 mm (top / bottom), 40 mm (at the side).
- The car door is equipped with a light curtain.
- The shaft front wall has a width in steps of 10 mm.
- For the standard configurations of the LEA® Comfort system not all door dimensions are shown. The larger range of door dimensions – as specified here – is technically possible.

Occurring forces

Rated load (Q)	450 kg				630 kg				800 kg				1000 kg (depth)							
Speed (m/s)	1.0	1.6	1.0	1.6	2.0	2.5	1.0	1.6	2.0	2.5	1.0	1.6	2.0	2.5	1.0	1.6	2.0	2.5		
O1 * Shaft ceiling (hoisting hook for elevator machine)	37				37				25				37							
O2 Shaft ceiling (hoisting hook for doors)	10				10				5				10							
P7 Shaft pit floor ¹⁾ (car guide rails)	59	88	77	112	91	101	94	137	91	101	114	161	91	101	114	161	91	101		
P8 Shaft pit floor ²⁾ (car buffer)	2 x 27		2 x 38		87 87		2 x 48		104 104		2 x 60		136 136							
P9 Shaft pit floor (counterweight buffer) ²⁾	44				61				73				77							
P10 Shaft pit floor ¹⁾ (counterweight guide rails)	13	20	17	20	87	74	21	28	87	74	26	33	87	74	26	33	87	74		
Extraordinary loads:																				
P11 (machine base frame) pull/push	2x5.5 / 2x7.4	2x6.7 / 2x9.2	4x5.5 / 4x7.4	4x6.7 / 4x9.2	–				4x5.5 / 4x7.4	4x6.7 / 4x9.2	–				4x5.5 / 4x7.4	4x6.7 / 4x9.2	–			
P12 (machine base frame) pull/push	5x2.4	5x3.0	5x3.3	5x4.2	–				5x4.2	5x5.3	–				5x5.3	5x6.6	–			
Extraordinary loads:																				
Machine base frame bearing-forces	–				–				20 21				–				20 28			
P1 Shaft headroom recess (machine base frame)	–				–				32 39				–				39 56			
P2 Shaft headroom recess (machine base frame)	–				–				68 81				–				84 91			
P3 Shaft headroom recess (machine base frame)	–				–				36 42				–				39 42			
P4 Shaft headroom recess (machine base frame)	–				–				–				–				–			

Rated load (Q)	1000 kg (width)				1250 kg				1600 kg							
Speed (m/s)	1.0	1.6	2.0	2.5	1.0	1.6	2.0	2.5	1.0	1.6	2.0	2.5				
O1 * Shaft ceiling (hoisting hook for elevator machine)	37				25				38							
O2 Shaft ceiling (hoisting hook for doors)	10				5				10							
P7 Shaft pit floor ¹⁾ (car guide rails)	114	161	91	101	134	183	102	101	134	183	102	101				
P8 Shaft pit floor ²⁾ (car buffer)	120		136		2 x 77		168		154		188					
P9 Shaft pit floor (counterweight buffer) ²⁾	98				113				2 x 59							
P10 Shaft pit floor ¹⁾ (counterweight guide rails)	26	33	87	74	33	47	87	74	33	47	87	74				
Extraordinary loads:																
P11 (machine base frame) pull/push	4x5.5 / 4x7.4	4x6.7 / 4x9.2	–		4x5.5 / 4x7.4	4x6.7 / 4x9.2	–		4x5.5 / 4x7.4	4x6.7 / 4x9.2	–					
P12 (machine base frame) pull/push	5x5.3	5x6.6	–		5x7.0	5x8.8	–		5x7.0	5x8.8	–					
Extraordinary loads:																
Machine base frame bearing-forces	–				23 35				–				29 39			
P1 Shaft headroom recess (machine base frame)	–				55 70				–				64 81			
P2 Shaft headroom recess (machine base frame)	–				103 112				–				122 133			
P3 Shaft headroom recess (machine base frame)	–				45 49				–				61 67			
P4 Shaft headroom recess (machine base frame)	–				–				–				64 70			

Load specifications in kN.

¹⁾ Per guide rail. The values are considered in design in accordance with EN 81-20 / 50, since in the course of considering the vertical forces by compressive forces (from the rail brackets at the guide rails, due to normal settling of the building or shrinkage of concrete) in the calculation respond, thereby increasing the value compared to the calculation method according to EN 81-1.

²⁾ Total load equally distributed across all buffers.

*With rated load Q > 1600 kg (v = 1.0/1.6 m/s) and in rated load range Q = 630 – 2000 kg (v = 2.0/2.5 m/s), the machine base frame is to be installed before closing the shaft ceiling.

The specified values for P7 - P12 (max. values) are approximate values since the forces are still dependent on type, speed, travel height, etc. More exact values are available on request.

Technical overview II

Technical overview II

LEA® Comfort

Rated load (Q)	2000 kg			2500 kg		3000 kg		3500 kg	4000 kg
	1.0	1.6	2.0	1.0	1.6	1.0	1.6	1.0	1.0
Speed (m/s)	1.0	1.6	2.0	1.0	1.6	1.0	1.6	1.0	1.0
O1 * Shaft ceiling (hoisting hook for elevator machine)	25			25		25		25	25
O2 Shaft ceiling (hoisting hook for doors)	5			5		5		5	5
P7 Shaft pit floor ¹⁾ (car guide rails)	90	102	74	90	92	96	92	92	92
P8 Shaft pit floor ²⁾ (car buffer)	245	210	262	240	283	259	303	322	322
P9 Shaft pit floor ²⁾ (counterweight buffer)	200	164	210	186	218	195	227	236	236
P10 Shaft pit floor ¹⁾ (counterweight guide rails)	69	76	87	69	76	79	80	79	79
Extraordinary loads:									
Machine base frame bearing-forces	28	29	32	29	32	31	34	33	35
P1 Shaft headroom recess (machine base frame)	75	79	86	79	86	85	93	91	96
P2 Shaft headroom recess (machine base frame)	128	139	150	139	151	148	162	158	167
P3 Shaft headroom recess (machine base frame)	50	53	58	54	58	57	62	60	64

Load specifications in kN.

¹⁾ Per guide rail. The values are considered in design in accordance with EN 81-20 / 50, since in the course of considering the vertical forces by compressive forces (from the rail brackets at the guide rails, due to normal settling of the building or shrinkage of concrete) in the calculation respond, thereby increasing the value compared to the calculation method according to EN 81-1.

²⁾ Total load equally distributed across all buffers.

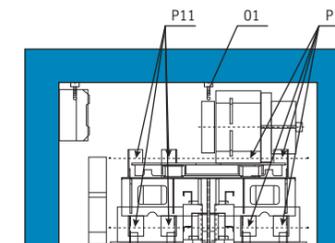
* With rated load Q > 1600 kg (v = 1.0/1.6 m/s) and in rated load range Q = 630 – 2000 kg (v = 2.0/2.5 m/s), the machine base frame is to be installed before closing the shaft ceiling.

The specified values for P7 - P10 (max. values) are approximate values since the forces are still dependent on type, speed, travel height, etc.

The exact force values are listed in the installation plan.

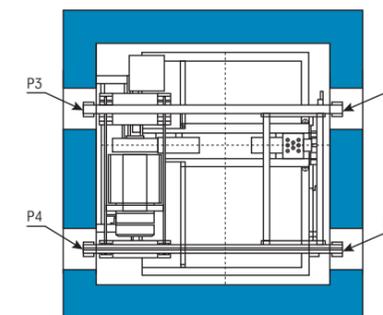
Machine base frame forces

Q = 450 – 1600 kg



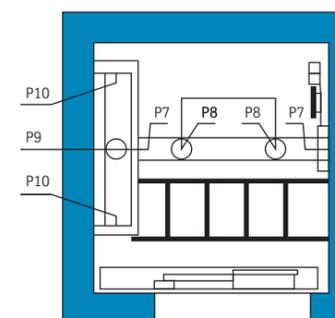
Shaft headroom forces

Q = 1600 – 4000 kg; v = 1.0/1.6 * m/s
Q = 630 – 2000 kg; v = 2.0/2.5 m/s

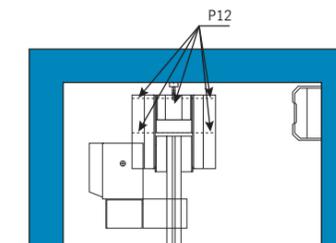


Shaft pit forces

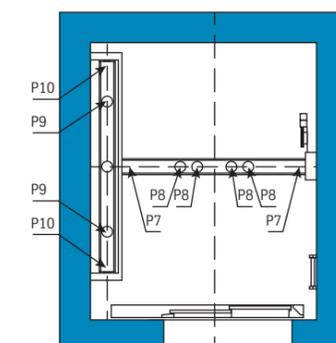
Q = 450 – 1600 kg



* v = 1.6 m/s to Q_{max} = 3200 kg

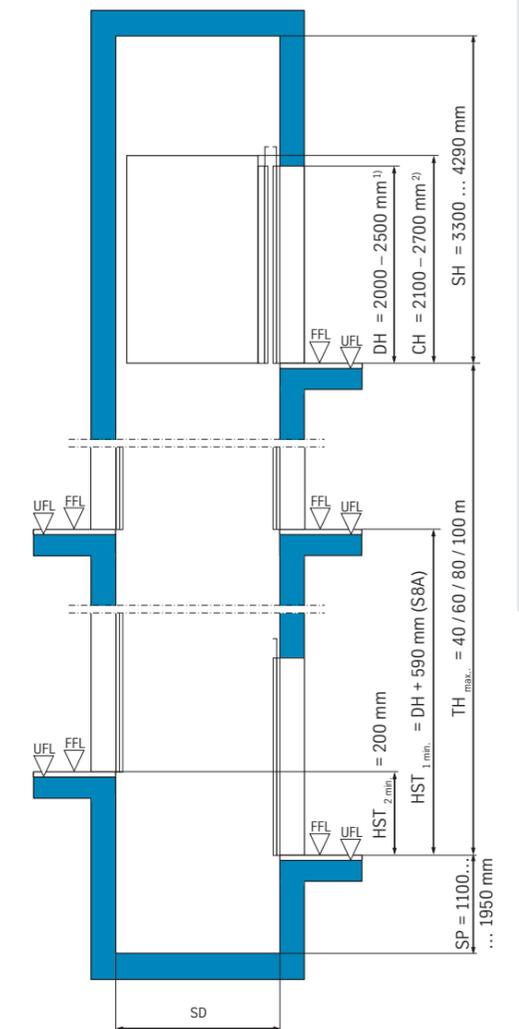


Q = 1600 – 4000 kg; v = 1.0/1.6 * m/s
Q = 630 – 2000 kg; v = 2.0/2.5 m/s



- Key
- TH = travel height
 - CH = car height
 - DH = door height
 - SH = shaft headroom height
 - SP = shaft pit depth

- SD = shaft depth
- HST = floor clearance
- FFL = upper edge of finished floor
- UFL = upper edge of unfinished floor



¹⁾ With glass door in shaft front wall, the available door heights are restricted (see page 12).

²⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.

LEA® Comfort

Car Design: Uni-Colour

Car Design: Uni-Colour and VERTICAL Design

LEA® Comfort

Design

- Design lines, developed in collaboration with a renowned interior architect and designer
- Uni-Colour design – horizontal separation of the wall surfaces at the height of the handrail offers modern design options
- Modern and contemporary colours and designs, coordinated with the trends in interior architecture and the possibility for strong contrasts
- Classic design line with vertical wall panels and broad range of materials also available

Flexibility

- Impressive selection of high-quality materials and attractive colours

Innovation

- Sophisticated, hidden fastening technology of the design wall fields for the Uni-Colour design lines; one-man installation possible

Comfort

- Design lines convey a relaxing atmosphere, even in small elevator cars

Economic Efficiency

- Uni-Colour wall surfaces may be installed after the construction phase
- Uni-Colour wall surfaces can easily be replaced, e.g., if changing or refreshing the appearance

STYLE



STYLE SELECTION
Stainless Steel



STYLE SELECTION
White Skin



STYLE SELECTION
Green Apple

CHIC



CHIC SELECTION
Dark Ink

ELEGANT



ELEGANT SELECTION
Champagner



ELEGANT SELECTION
Gold

VERTICAL



VERTICAL SELECTION
Stainless Steel



VERTICAL SELECTION
Traffic White RAL 9016



VERTICAL SELECTION
Krupp Stainless Steel Design „Linen“

LEA® Comfort

Car Design: STYLE (Uni-Colour)

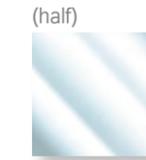
Car Design: STYLE (Uni-Colour)



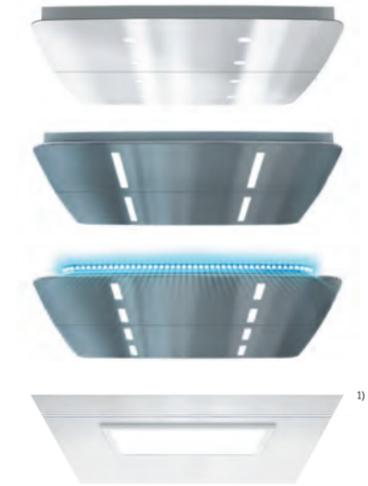
Hand rail



Mirror



False ceiling



Structure

1. Car ceiling

- Powder-coated, Traffic White, RAL 9016.

2. False ceiling

- Delivery in 2 to 3 segments depending on the car dimensions.
- Cover plate made of hairline stainless steel grit 220, type 304.

3. Top car Panel

- Thickness approx. 5 mm (depends on the surface materials).

4. Decorative strip

- Aluminium (brushed and polished surface design) grit 220.
- Integrated between top and bottom car panels.

5. Handrail

- Made of hairline stainless steel grit 220, type 304.
- Diameter always 40 mm.
- Version with straight ends or bonded mounting (adapted to the needs of disabled people according to EN81-70) or round surrounding with corner mounting as well as on the decorative strip with rounded mounting.
- Available for 1/2/3 side walls.

6. Bottom car panel

- Thickness approx. 5 mm (depends on the surface materials).

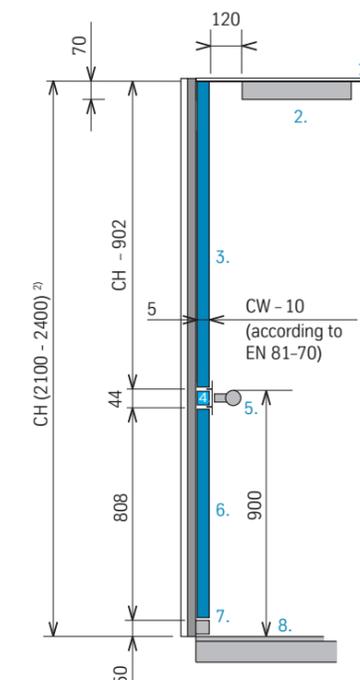
7. Skirting

- Anodised aluminium with stainless steel appearance, grain 220, height 50 mm.
- Aluminium, panelled with hairline stainless steel grit 220, type 304, height 50 mm.

8. Flooring material

- Thickness between 2 and 40 mm.

Skirting



¹⁾ without false ceiling
²⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.

Subject to technical changes that might have an impact on the design (look, feel).

Car Design: STYLE (Uni-Colour)

Car Design: CHIC (Uni-Colour)

Mirror

 Half mirror rear wall or side wall opposite car operation panel
 BTHM ○

Colours/materials¹⁾
Available colours – as top and bottom car panel

WTSE WBSE Leather/Stainless Steel	WTSL WBSL Linen/Stainless Steel	WTSH WBSH Hairline/Stainless Steel
WTPW WBPW White Skin	WTPS WBPS Dark Skin	WTCS WBCS Smoke
WTLR WBLR Red Ming	WTLD WBLD Dark Ink	WTLI WBLI Iron
WTLA WBLA Green Apple	Toronto	Canberra

¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

³⁾Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.

False ceilings

 Spot LED CSSL	 Brilliant LED CBLN	 Grandiose LED CGLW	 SlimLED PANEL ³⁾ 620 x 620 mm Lighting directly on the car ceiling
---------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Flooring materials¹⁾

FPDG Dove Grey/Vinyl	FRKG Kayar Grey/Rubber
FNES Black Stone/Rubber	FRKB Kayar Black/Rubber

¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

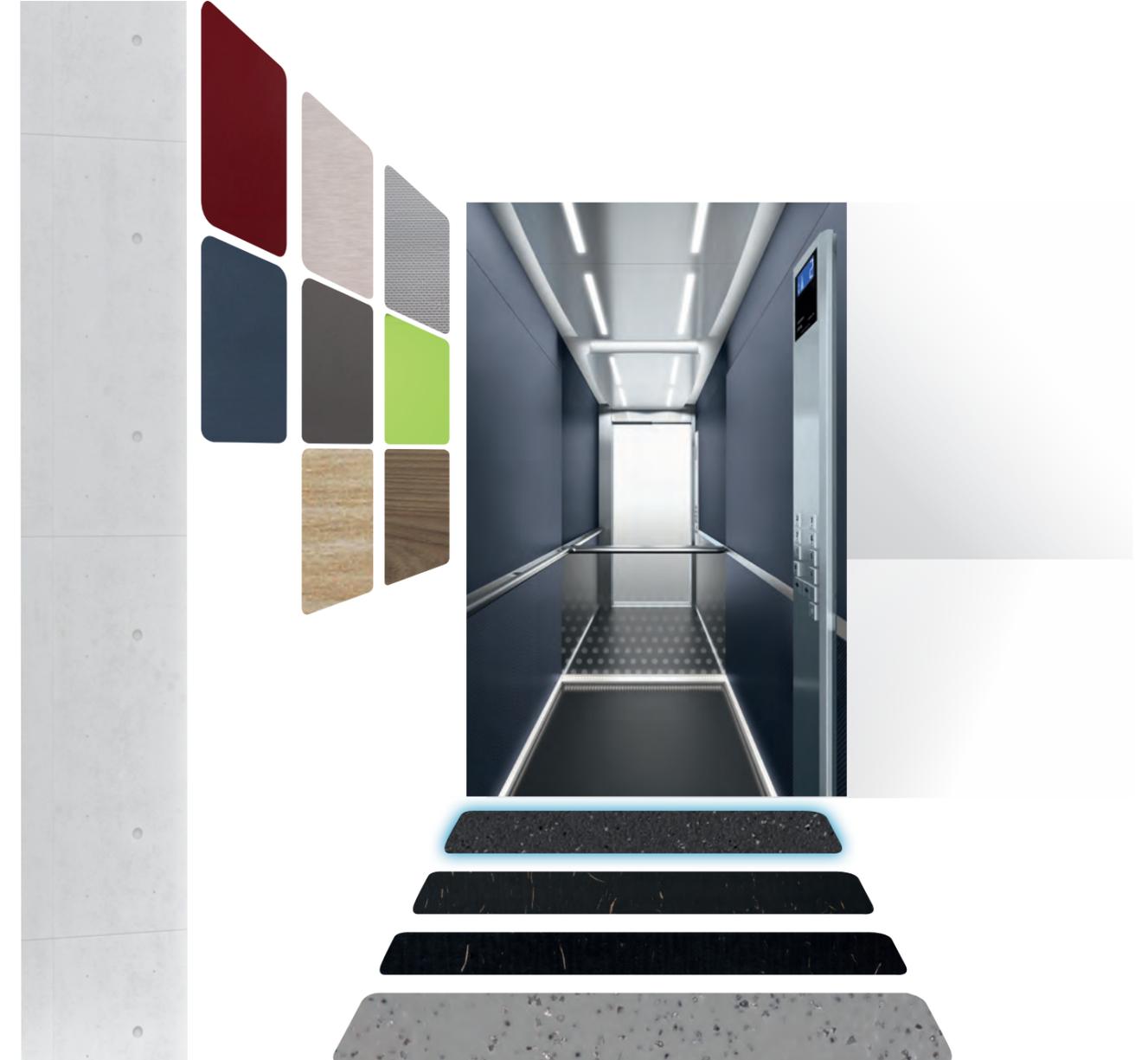
Hand-rail			Skirting
 Stainless steel Bended (40 mm)	 Stainless steel Straight (40 mm)	 Stainless steel Round surrounding (40 mm)	

Bumper rails

	Bumper rail [in mm] height	Car operating panel integrated	Car operating panel surface mounted
Stainless steel (100 x 10 mm)	1-row	550	450
	2-rows	550, 800	450, 650
	3-rows	300, 550, 800	250, 450, 650

Subject to technical changes that might have an impact on the design (look, feel).

○ Optional



Car Design: CHIC (Uni-Colour)

Car Design: CHIC (Uni-Colour)

LEA® Comfort

Hand rail



Structure

- 1. Car ceiling**
 - Powder-coated, Traffic White, RAL 9016.
- 2. False ceiling**
 - Delivery in 2 to 3 segments depending on the car dimensions.
 - Cover plate made of hairline stainless steel grit 220, type 304.
- 3. Top car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 4. Decorative strip**
 - Aluminium (brushed and polished surface design) grit 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of hairline stainless steel grit 220, type 304.
 - Diameter always 40 mm.
 - Version with straight ends or bonded mounting (adapted to the needs of disabled people according to EN81-70) or round surrounding with corner mounting as well as on the decorative strip with rounded mounting.
 - Available for 1/2/3 side walls.

6. Bottom car panel

- Thickness approx. 5 mm (depends on the surface materials).

7. Skirting

- Hairline stainless steel grit 220, type 304, height 50 mm.
- With indirect LED lighting (white LED or RGB LED lighting).
- RGB LED lighting for car false ceiling and skirting.
- Anodised aluminium with stainless steel appearance, grain 220, height 50 mm.

8. Flooring material

- Thickness between 2 and 40 mm.

Mirror

(half)



(total height)



(total height)

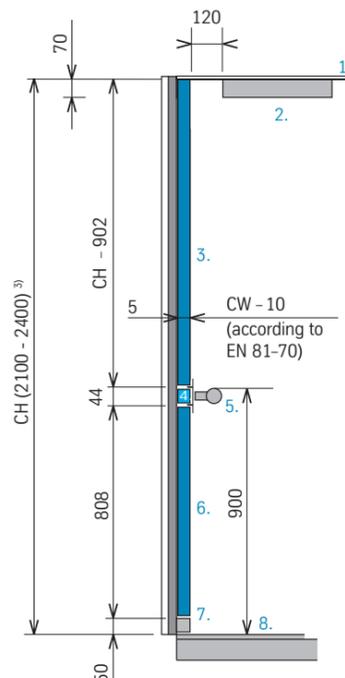
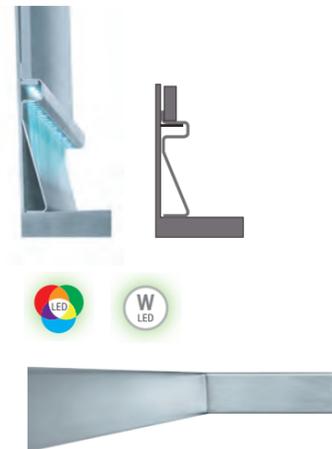


¹⁾ available for CW ≤ 1600 mm

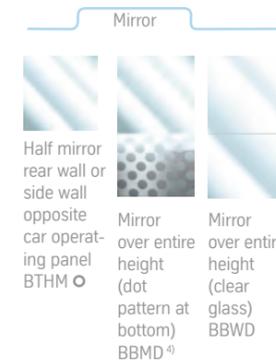
False ceiling



Skirting



²⁾ without false ceiling
³⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.
 Subject to technical changes that might have an impact on the design (look, feel).



³⁾ Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.

Subject to technical changes that might have an impact on the design (look, feel).
 ○ Optional

Colours/materials ¹⁾

Available colours – as top and bottom car panel

WTSL WBSL Linen/Stainless Steel	WTSH WBSH Hairline/Stainless Steel	WTLR WBLR Red Ming
WTLD WBLD Dark Ink	WTLI WBLI Iron	WTLA WBLA Green Apple
Toronto	Canberra	

¹⁾ The depicted coloured surfaces are similar and may differ from the actual design.

False ceilings



Flooring materials ¹⁾

FPDG Dove Grey/Vinyl	FRKG Kayar Grey/Rubber
FNES Black Stone/Rubber	FRKB Kayar Black/Rubber

¹⁾ The depicted coloured surfaces are similar and may differ from the actual design.

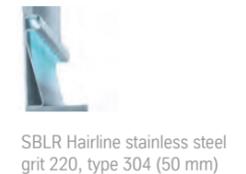
Hand-rail



Bumper rails

	Height of bumper rail [in mm]	Car operating panel integrated	Car operating panel surface mounted
Stainless steel (100 x 10 mm)			
	1-row	550	450
	2-rows	550, 800	450, 650
	3-rows	300, 550, 800	250, 450, 650

Skirting

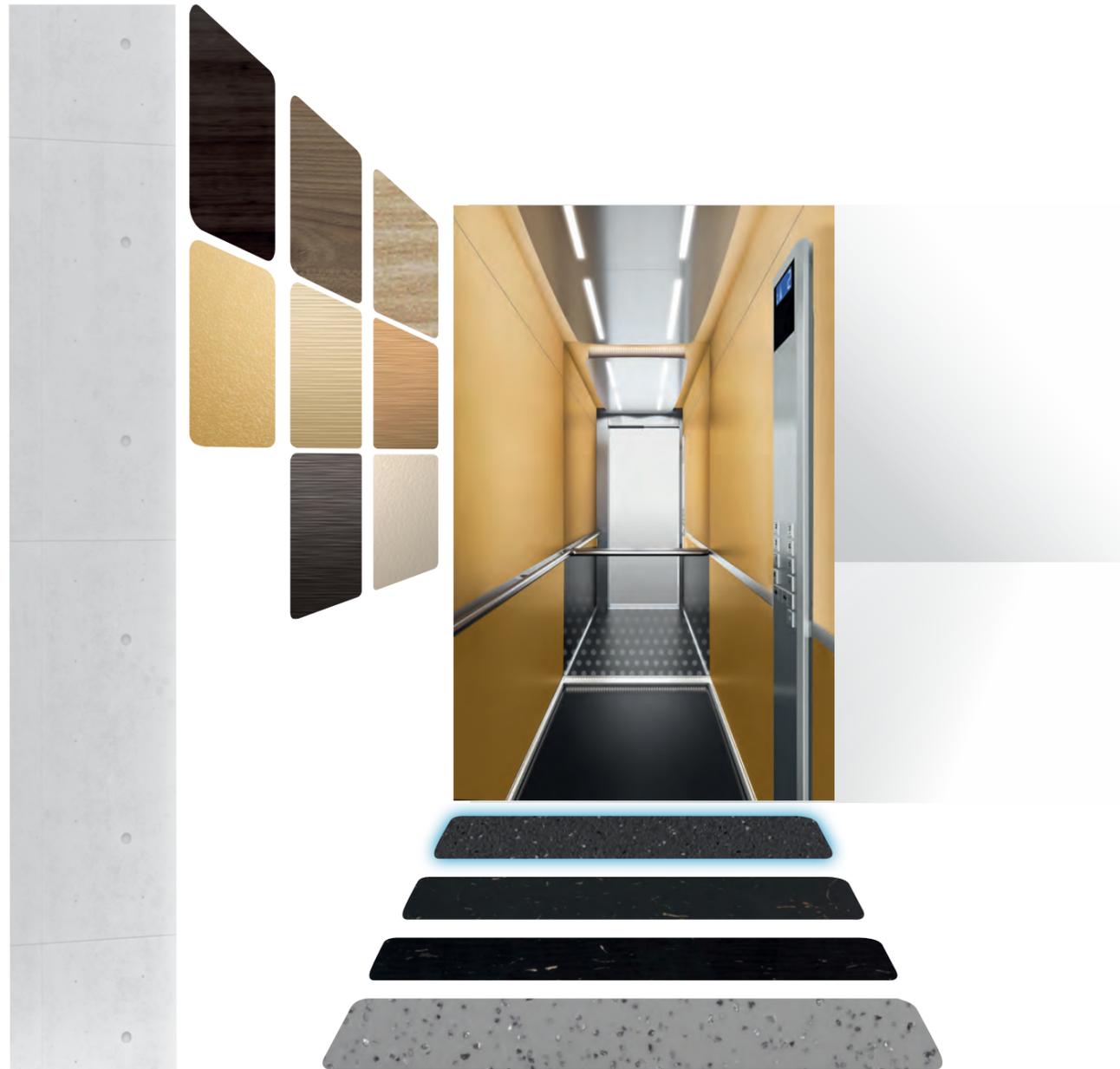


Anodised aluminium with stainless steel appearance, grain 220 (50 x 5 mm)

LEA® Comfort

Car Design: ELEGANT (Uni-Colour)

Car Design: ELEGANT (Uni-Colour)



Hand rail



Structure

- 1. Car ceiling**
 - Powder-coated, Traffic White, RAL 9016.
- 2. False ceiling**
 - Delivery in 2 to 3 segments depending on the car dimensions.
 - Cover plate made of hairline stainless steel grit 220, type 304.
- 3. Top car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 4. Decorative strip**
 - Aluminium (brushed and polished surface design) grit 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of hairline stainless steel grit 220, type 304.
 - Diameter always 40 mm.
 - Version with straight ends or bonded mounting (adapted to the needs of disabled people according to EN81-70) or round surrounding with corner mounting as well as on the decorative strip with rounded mounting.
 - Available for 1/2/3 side walls.
- 6. Bottom car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 7. Skirting**
 - Hairline stainless steel grit 220, type 304, height 50 mm.
 - With indirect LED lighting (white LED or RGB LED lighting).
 - RGB LED lighting for car false ceiling and skirting.
 - Anodised aluminium with stainless steel appearance, grain 220, height 50 mm.
- 8. Flooring material**
 - Thickness between 2 and 40 mm.

Mirror



(half)

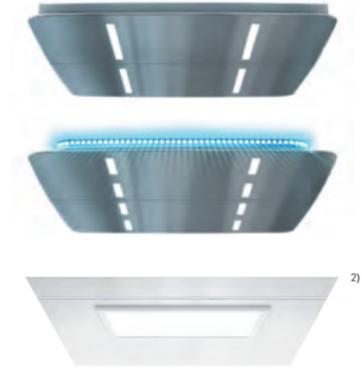


(total height)

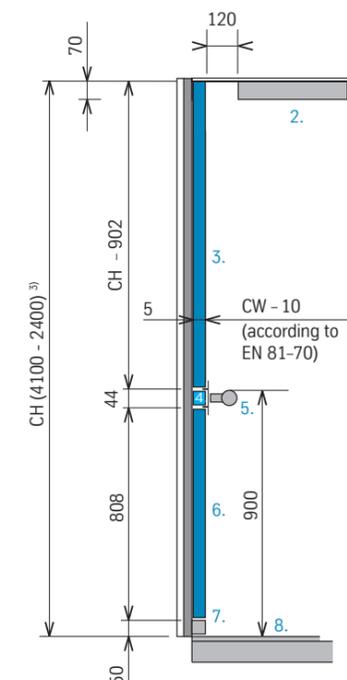


¹⁾ available for CW ≤ 1600 mm

False ceiling



Skirting

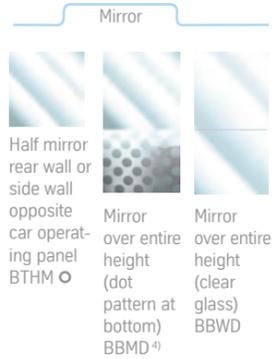


²⁾ without false ceiling
³⁾ For accessories with Uni-Colour design: CH is ≤ 2400 mm.

Subject to technical changes that might have an impact on the design (look, feel).

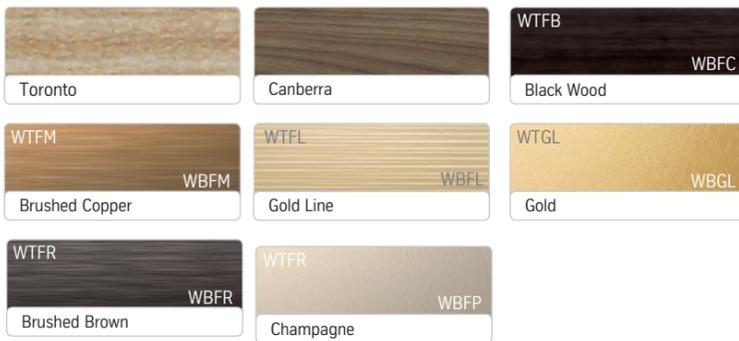
Car Design: ELEGANT (Uni-Colour)

Interior Car Design: Uni-Colour



Colours/materials¹⁾

Available colours – as top and bottom car panel

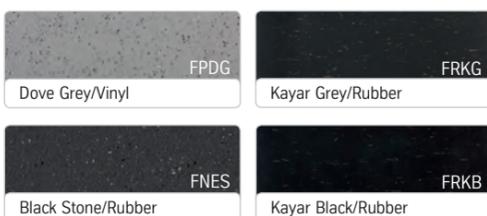


¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

False ceilings



Flooring materials¹⁾

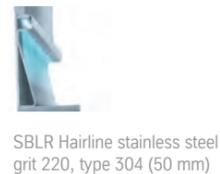


¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

Hand-rail



Skirting



Bumper rails

Height of bumper rail [in mm]	Car operating panel integrated	Car operating panel surface mounted
1-row	550	450
2-rows	550, 800	450, 650
3-rows	300, 550, 800	250, 450, 650



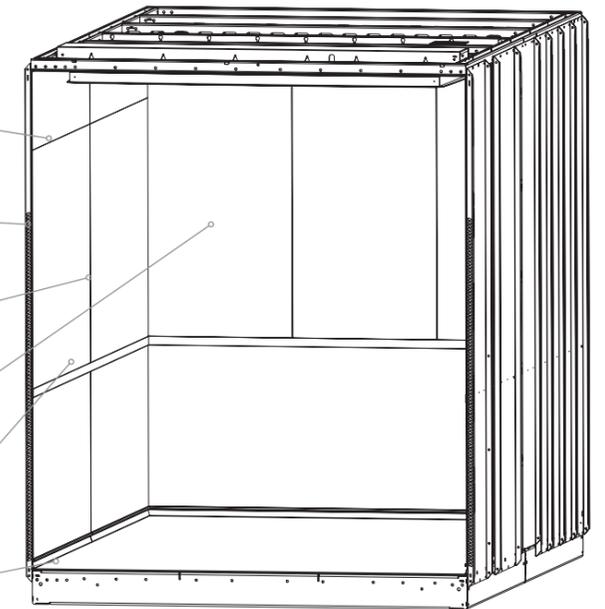
³⁾Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.

Subject to technical changes that might have an impact on the design (look, feel).

○ Optional

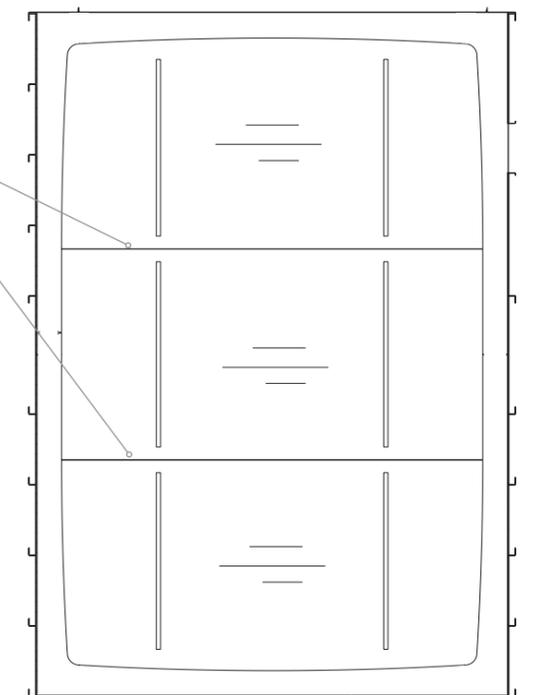
Structure of elevator car interior panelling (Uni-Colour design)

- Horizontal decorative joint at 2100 mm from upper edge of finished floor.
- Between car ventilation (not visible) and elevator car portal – 5 mm gap.
- Vertical partition with CD > 2,500 mm central joint 3.0 mm (top and bottom car panel).
- Back wall mirror with CW > 1600 mm, 3-part. Mirror with dot pattern available for CW ≤ 1600 mm.
- Side wall mirror from CD > 1400 mm 2-part (only up to CH = 2300 mm and CD = 2400 mm).
- Skirting with CD > 3000 mm. Partition central.



Ceiling design:

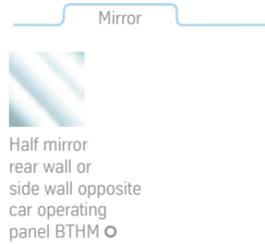
- False ceiling 3-part with ceiling areas > 2.5 m² and two visual joints (with 2-piece false ceiling, joint centrally positioned).
- In the case of deep car layouts, the grinding direction for stainless steel false ceilings runs laterally. In the case of wide car layouts, the arrangement of the false ceiling and, thus, the stainless steel grinding direction is offset by 90 degrees.
- Star Spot LED false ceiling available up to maximum rated load Q = 1600 kg.
- The SlimLED PANEL lighting is mounted directly on the elevator car rough ceiling. A false ceiling is not available.



Car Design: VERTICAL

Glass Elevator Car Design: VERTICAL

LEA® Comfort



Colours/materials

1. Galvanised	2. Ocean blue (RAL 5020)	3. Sand yellow (RAL 1002)	4. Traffic White (RAL 9016)	5. White Aluminium (RAL 9006)	6. Hairline stainless steel grit 220, type 304	7. Krupp Stainless Steel Design "Linen"	8. Krupp Stainless Steel Design "Diamond"	9. Krupp Stainless Steel Design "Leather"
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False ceilings

SpotsLED	Cassette ceiling ¹⁾	SlimLED PANEL ³⁾ 620 x 620 mm Lighting directly on the car ceiling
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Indirect lighting²⁾

Sample representation of elevator car

Elevator car with vertical wall panel structure. The wall panel partitioning depends on the car size (width/depth) or on the rated load.

¹⁾ No emergency trap door possible.
²⁾ Subject to technical changes that might have an impact on the design (look).
³⁾ Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.

Flooring materials

FPDG Dove Grey/Vinyl	FRKG Kayar Grey/Rubber	FRKB Kayar Black/Rubber
FNES Black Stone/Rubber	Bulb plate V2A (4 mm), aluminium (AE) (3 mm) or steel (6 mm; Mouse Grey / RAL 7005, powder coated)	

Car floor lowered 3.5 mm. Flooring by the customer
Car floor lowered 25 mm. Flooring by the customer
Car floor lowered 40 mm. Flooring by the customer

Hand-rail

Stainless steel Bended (40 mm)	Stainless steel Straight (40 mm)	Stainless steel Round surrounding (40 mm)
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Skirting

2 versions:
- Anodised aluminium with stainless steel appearance, grain 220 (50 x 5 mm)
- Cladded with stainless steel grain 220 (50 x 5 mm)

Bumper rails

Beech (200 x 19 mm)	Stainless Steel (100 x 10 mm)	Stainless Steel round (40 mm)
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Folding seat

Seat, plastic-coated black (308 mm x 440 mm)

Height of bumper rail [in mm]

1-row	550
2-rows	550, 800
3-rows	300, 550, 800

Subject to technical changes that might have an impact on the design (look, feel).
○ Optional

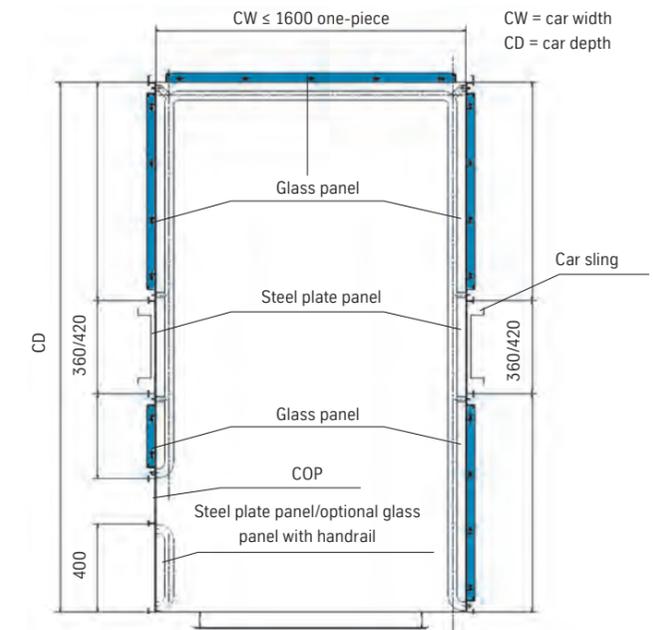
LEA® Comfort

The LEA® Comfort is also available with our attractive and modern glass elevator cars.

The layout of our glass elevator cars is as follows:

- The car back wall as well as the side walls of the glass elevator car are designed on the basis of standardised glass wall panels, framed with hairline stainless steel grit 220, type 304.
- The frame profile widths of each glass panel, including the glass retaining strips, are 55 mm and 65 mm at the side (depending on handrail), min. 60 mm at the bottom and min. 35 mm at the top.
- Steel plate panels in design hairline stainless steel grit 220, type 304, are fitted between the elevator car portal and the car operating panel as well as in the central car area.
- For cars wider than 1600 mm, the glass rear wall is split. The glass wall panels of the elevator car consist of a solid metal frame in which laminated glass is installed.
- The laminated glass is fixed in place by clipped aluminium glass retaining strips in such a way that the glass panels can be replaced easily from the inside of the elevator car.
- Protruding, nicely rounded handrails with corner mounting additionally underline the high-quality appearance of our glass elevator cars.

Sample glass elevator car configuration



Glass elevator car also possible in mirrored version and with dual entrance. Version adapted to the needs of disabled people according to EN 81-70 available as option.

In the same way as all other elevator cars in our product ranges, our glass elevator cars comply with all standards and regulations. Glass panels and glass doors made of laminated glass and user-friendly access systems ensure the corresponding safety.

To a high degree, our modern glass elevator cars support the aesthetic appearance of modern building architecture. Tailored solutions for your project - for the unique elevator with the freedom of transparency.



Main components

Scope of Supply and Planning Information

Gearless machine



Gearless PMC145/170 resp. DAF210 / DAF270

The synchronous gearless PMC145/170 resp. DAF210 and DAF270 are one of the most compact machines and are perfectly suited for deployment in the LEA® Comfort elevator system without a machine room.

- High efficiency
- Low noise as there is no forced ventilation and very smooth running
- Safe and comfortable electromagnetic brake release
- Anti-friction bearings with life-time lubrication
- Number of travel per hour up to 240 s/h

Frequency inverter

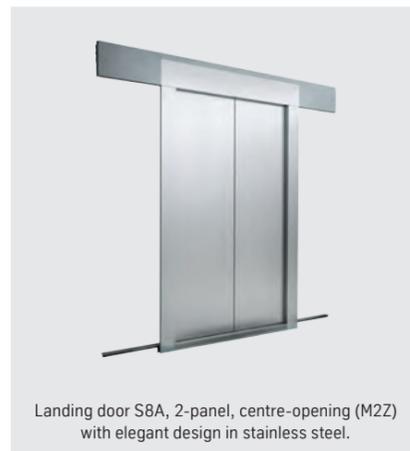


MFC 21/31 Inverter

The power-vector-controlled LiftEquip frequency inverter is optimised for the PMC145/170 resp. DAF210 / DAF270 synchronous machines.

- Inverter MFC 21 with power filter and power choke
- With travel contactor (MFC 31)
- Brake activation
- Brake resistor in the separate housing
- Motor parameters stored
- Rapid commissioning via Plug&Play
- Emergency power mode possible in the event of a power failure via UPS (uninterrupted power supply)
- Integrated speed monitoring (with MFC 31) in conjunction with suitable control system
- Parallel interface and DCP03

Doors



Landing door S8A, 2-panel, centre-opening (M2Z) with elegant design in stainless steel.

Shaft door S8A / Car door K8A

The thyssenkrupp S8A/K8A door series is characterised by elegance, durability and an extensive range of options.

- 2-panel, side-opening telescopic sliding door (M2T)
- 2-panel, centre-opening sliding door (M2Z)
- 4-panel, centre-opening telescopic sliding door (M4TZ)
- Elegant and convenient door, ideally suitable for use in prestigious surroundings
- Panelling in numerous surface designs, glass door panels, aluminium and

- Ideally suited for energy recovery
- Brake system against overspeed in accordance with EN 81-20 /5.6.6 and against unintended movement of the elevator car in accordance with EN 81-20 /5.6.7
- UCM verification using the safety brake of the machine and considering the switching times of the control system
- Rope guard in accordance with EN 81-77 up to earthquake category 3

MFR Inverter (optional)

The MFR frequency inverter with energy recovery capability is the optimal technology for the creation of an energy efficient elevator.

- In addition to features of the MFC 21/31:
- Inverter with electronic brake activation, power filter, power choke and electronic travel contactors
 - Integrated power regeneration, which means no brake resistor is required
 - Possibility for activation of a standby and sleep mode to improve energy efficiency
 - Possibility for remote parameterisation via DCP03/04, CANopen and parallel interface (option)

stainless-steel door sills and surrounding invisible sill guides enable individual adaptation to the design requirements in the building

- High-quality door safety lock systems and short door reversal times
- Safe and robust mechanical construction with powerful door drive
- Long service life as a result of the exclusive deployment of proven and tested materials and components
- Ensuring a rapid and long-lasting spare parts availability
- In case of shaft front wall Fermator doors are used: landing door "40/10" respectively "Premium", car door "Premium PM"

LEA® Comfort scope of supply

Machine

- Gearless machine PMC145 / PMC170 resp. DAF210 / DAF270
- Motor cable (optional)
- Encoder (BISS-C, NDAT, etc.) with cables
- Positioned at and/or in machine frame in the shaft headroom protected from vibration

Frequency inverter

- MFC 21/31 inverter without power regeneration, with chopper resistor
- BSV4 for brake activation (optional)
- MFR inverter (optional) with power regeneration

Elevator car

- Car in steel plate design, with standardized and/or individual dimensions (in steps of 1 mm)
- Car type P4000/P1000 and/or P4000/P3000 with car guard rail
- Car sling
- Plastic diverter pulleys (Ø 320 and/or Ø 400 mm) at the top, with isolation (optional)
- Suspension 2:1 and/or 3:1 (Q ≥ 2500 kg)
- Vibration isolation with steel springs (bottom) and rubber elements (top)
- Ventilation via vents in the door recess

Counterweight

- Steel plate frame
- Diverter pulleys for suspension 2:1 and/or 3:1
- Weight inserts: steel, concrete and Gussolith in variable proportions
- With safety gear (optional)
- Pit screen according to EN 81-20/50

Guides on elevator car / counterweight

- Moving plastic sliding guides with lubricating units
- Optional roller guides

Guide rails

- Steel rails (T-section) for car and counterweight with butt straps and mounting parts

Rope system

- Steel ropes Ø 6,0, Ø 8.0 mm and/or Ø 10.0 mm, 1570 N/mm²
- Rope end brackets in the shaft headroom, suspensions insulated with rubber / steel springs
- Compensation chain depending on the design

Shaft equipment

- Two-part sliding shackles made of galvanised steel plate with mounting parts

Painting / priming

- Steel parts mainly with powder coating (similar to RAL 7005) or priming (RAL 7031 and/or RAL 7005), layer thickness approx. 60 µm; galvanised parts remain galvanised

Landing door (S8A) / car door (K8A)

- Door panels and door architraves made of electrogalvanized sheet metal
- Shaft door panels single-leaf made in noise-inhibiting sandwich design
- Door panels at top with large rollers and counter-rollers, adjustable sliders
- Different door types for installation in the shaft or recess
- Different designs: colours in RAL or stainless steel
- Different sill designs: steel or stainless steel
- Optionally concealed sill guide
- Frequency-controlled drive with toothed belt drive with automatic learning function
- Door drive with closing force limiter
- High resolution light curtain
- In case of shaft front wall Fermator doors are used: landing door "40/10" respectively "Premium", car door "Premium PM"

Progressive safety gear

- Progressive safety gear for downwards direction, integrated in the car sling
- Protection in upward direction: monitored operational brake according to EN 81-20 /5.6.6

Speed governor

- Ø 200 mm, with remote tripping, positioned in the shaft headroom at the rail end (type 6023F)
- Governor rope Ø 6.5 mm
- Tensioner device for shaft pit

Buffer

- Polyurethane buffer (v ≤ 1.0 m/s) and/or oil buffer for car and counterweight with pit elements for installation in the shaft pit

Not included in the scope of supply are:

- Control system and control box with measures for rescue of passengers
- Operating and indicator elements
- External control panels
- Mounted resp. built-in control panel in the elevator car
- Emergency call system
- Car distribution box
- Travelling cable
- Shaft selector
- Shaft wiring and shaft lighting
- Inspection control and emergency stop switch
- Integration of the inverter
- Connection of the car lighting and the overload sensor
- Load measurement system (occupied, full load, overload)
- emergency light

All of the above components must be provided by the installation firm and/or a control system supplier.

Control box of the control system

The control box with control system is not included in the scope of supply. It must be provided by the installation firm. The control box is mounted preferably in the top landing of the entrance area. Installation in the landings below this is possible. The nearest landing door must be located within calling distance of the control box and be visible from the control box. If the control box is installed in an adjoining room, the room must be equipped with an intercom system in accordance with EN 81-20, Section 5.12.3.2.

Legal information

The LEA® Comfort elevator system has been granted an EU Type Test Certificate in accordance with Appendix IV, Module B, of 2014/33/EU Directive. Before the commencement of operation, the installation firm must have the elevator system per inspected / approved in an individual inspection with danger analysis. The existing EU Type Test Certificate can be used as the basis for this. During the planning phase, please consider all applicable regulations stipulated by the relevant notified body and all applicable national regulations. Patents have been granted for the LEA® Comfort elevator system. On an order-related, LiftEquip will issue a quota licence.

Technical data	STYLE	CHIC	ELEGANT	VERTICAL
Rated load				
450 kg – 4000 kg	●	●	●	●
450 kg – 4000 kg (dual entrance)	○	○	○	○
Speed				
v = 1.0 m/s (Q = 450 – 4000 kg)	●	●	●	●
v = 1.6 m/s (Q = 450 – 3200 kg)	●	●	●	●
v = 2.0 m/s (Q = 450 – 2000 kg)	●	●	●	●
v = 2.5 m/s (Q = 450 – 1600 kg)	●	●	●	●
Max. travel height 100 m	●	●	●	●
Max. number of landings 40	●	●	●	●
Car height 2100 – 2700 mm (basic size) (for accessories with Uni-Colour design: CH is ≤ 2400 mm)	●	●	●	●
Flexible car dimensions in 1 mm steps	○	○	○	○
Door version				
Dual panel, side-opening telescopic sliding door (M2T resp. T2)	●	●	●	●
Dual panel, centre-opening door (M2Z resp. C2)	○	○	○	○
Quadruple panel, centre-opening telescopic sliding door (M4TZ resp. C4)	○	○	○	○
Door width ¹⁾				
700 – 1400 mm (two panel, telescopic opening door / centre-opening door) ²⁾	○	○	○	○
700 – 2500 mm (four panel, centre-opening telescopic door) ²⁾	○	○	○	○
Flexible door widths in 50 mm steps (not available for shaft front wall)	○	○	○	○
Door height 2000 – 2500 mm (available door heights with shaft front wall, see page 12)	○	○	○	○
Shaft headroom height				
min. 3300 mm, Q ≤ 1000 kg, v = 1.0 m/s, CH = 2100 mm	○	○	○	○
min. 3300 mm, Q > 1000 – 1600 kg, v = 1.0 m/s, CH = 2100 mm	○	○	○	○
min. 3500 mm, Q ≤ 1000 kg, v = 1.6 m/s, CH = 2100 mm	○	○	○	○
min. 3500 mm, Q > 1000 – 1600 kg, v = 1.6 m/s, CH = 2100 mm	○	○	○	○
min. 3700 mm, Q > 1600 – 4000 kg, v = 1.0 m/s, CH = 2100 mm	○	○	○	○
min. 3855 mm, Q > 1600 – 3200 kg, v = 1.6 m/s, CH = 2100 mm	○	○	○	○
min. 4055 mm, Q ≥ 630 – 2000 kg, v = 2.0 m/s, CH = 2100 mm	○	○	○	○
min. 4290 mm, Q ≥ 630 – 1600 kg, v = 2.5 m/s, CH = 2100 mm	○	○	○	○
Shaft pit depth				
min. 1100 mm, Q ≤ 1000 kg, v = 1.0 m/s	○	○	○	○
min. 1200 mm, Q ≤ 1000 kg, v = 1.6 m/s	○	○	○	○
min. 1150 mm, Q > 1000 – 1600 kg, v = 1.0 m/s	○	○	○	○
min. 1250 mm, Q > 1000 – 1600 kg, v = 1.6 m/s	○	○	○	○
min. 1250 mm, Q > 1600 – 2000 kg, v = 1.0 m/s	○	○	○	○
min. 1350 mm, Q > 1600 – 2000 kg, v = 1.6 m/s	○	○	○	○
min. 1300 mm, Q > 2000 – 4000 kg, v = 1.0 m/s	○	○	○	○
min. 1500 mm, Q > 2000 – 3200 kg, v = 1.6 m/s	○	○	○	○
min. 1500 mm, Q ≥ 630 – 2000 kg, v = 2.0 m/s	○	○	○	○
min. 1950 mm, Q ≥ 630 – 1600 kg, v = 2.5 m/s	○	○	○	○
Landing door	STYLE	CHIC	ELEGANT	VERTICAL
Installation in shaft/in recess (55 mm – M2T/M4TZ)/in deep recess (100 mm – M2T/M4TZ)	●/○/○	●/○/○	●/○/○	●/○/○
Installation in shaft/in recess (20 mm – M2Z)/in deep recess (60 mm – M2Z)	●/○/○	●/○/○	●/○/○	●/○/○
With shaft front wall: model landing door Fermator "40/10" respectively "Premium", model car door Fermator "Premium PM" installation in the shaft / in recesses (recess = 115 mm for T2 (resp. M2T) / C4 (resp. M4TZ), recess = 65 mm for C2 (resp. M2Z))	●/○	●/○	●/○	●/○
Version				
Electrolytically Galvanised ³⁾	●	●	●	●
Hairline stainless steel grit 220, type 304	○	○	○	○
Stainless Steel, Linen	○	○	○	○
Stainless Steel, Diamond ³⁾	○	○	○	○
Stainless Steel, Leather	○	○	○	○
Powder coated RAL 9016 Traffic White ³⁾	○	○	○	○
Powder coated RAL 9006 White Aluminium ³⁾	○	○	○	○
Powder coated RAL 7032 Pebble Grey (only for door model "40/10" respectively "Premium")	●	●	●	●
Special protective coat of paint ³⁾	○	○	○	○
Door sill				
Aluminium door sill	●	●	●	●
Door sill made of stainless steel	○	○	○	○

¹⁾ For technical reasons, not all combination possibilities are possible for doors with respect to door designs, door widths and door heights. For details, please refer to the appropriate technical documents (Fact Sheet or product catalogue).
²⁾ Door with shaft front wall Fermator: type T2 (resp. M2T): DW = 700 – 1400 mm; type C2 (resp. M2Z): DW = 700 – 1400 mm; type C4 (resp. M4TZ): DW = 900 – 2400 mm; DH = 2000 – 2500 mm.
³⁾ Not available for door with shaft front wall (model landing door Fermator "40/10" respectively "Premium", model car door Fermator "Premium PM").

● Standard equipment, ○ option, – not currently available. Please contact our sales consultants regarding the availability of options.

Landing door	STYLE	CHIC	ELEGANT	VERTICAL
Fire protection certificates				
Fire protection certificate E120 acc. to EN81-58	●	●	●	●
Fire protection certificate E30 acc. to EN81-58 ³⁾	○	○	○	○
Fire protection certificate EW30 acc. to EN81-58 ³⁾	○	○	○	○
Fire protection certificate EW60 acc. to EN81-58 ³⁾	○	○	○	○
Fire protection certificate EI60 acc. to EN81-58 ³⁾	○	○	○	○
Fire protection certificate EI120 acc. to EN81-58 ³⁾	○	○	○	○
Fire protection certificate E30 acc. to GHOST ³⁾	○	○	○	○
Fire protection certificate EI120 acc. to GHOST (Version with smooth paint instead of textured paint) ³⁾	○	○	○	○
Fire protection certificate (2 hours acc. to BS476) ³⁾	○	○	○	○
Special versions (not all special versions (SA) can be combined with one another)				
SA12 Small height between floors (450 - 589 mm) with recess ³⁾	○	○	○	○
SA15 Stainless steel sill wheel load QRL = 500 kg (for door model "40/10" respectively "Premium": QRL = 900 kg)	○	○	○	○
SA16 Stainless steel sill wheel load QRL=1500 kg ³⁾	○	○	○	○
SA17 Stainless steel sill with hidden guide (incl. SA18 sill without visible guide) ³⁾	○	○	○	○
SA18 Sill without visible guide ³⁾	○	○	○	○
SA19 Profile section between narrow door frames ³⁾	○	○	○	○
SA29 Deliver door disassembled ³⁾	○	○	○	○
SA32 Fastening at shaft scaffold ³⁾	○	○	○	○
SA34 Covering on shaft side of door post and header, galvanised sheet metal ³⁾	○	○	○	○
SA35 Gap cover for plastering	○	○	○	○
SA37 Rubber strip on door panel closing edge	○	○	○	○
SA38 Wall-plug fixture instead of anchor rail mount (for door model "40/10" respectively "Premium": always wall-plug fixture)	○	○	○	○
SA39 Halogen-free cables, only safety circuit ³⁾	○	○	○	○
SA42 Widened toeguard, galvanised sheet metal ³⁾	○	○	○	○
SA43 Suspension gear on shaft side covered with galvanised sheet metal ³⁾	○	○	○	○
SA55 Twin-shell door panel according to EN81-58 ³⁾	○	○	○	○
Glass door				
SA31 Glass door panels with 50 mm surrounding frame for landing doors ³⁾	○	○	○	○
SA33 Glass door panels with 25 mm surrounding frame for landing doors ³⁾	○	○	○	○
SA34 Covering on shaft side of door post and header, hairline stainless steel grit 220, type 304 ³⁾	○	○	○	○
SA34 Covering on shaft side of door post and header, stainless steel, Linen ³⁾	○	○	○	○
SA34 Covering on shaft side of door post and header in standard version, galvanised or powder coated sheet metal, Mouse Grey RAL7005 depending on door type ³⁾	○	○	○	○
SA41 Solid glass door panels for landing doors ³⁾	○	○	○	○
SA42 Widened toeguard, hairline stainless steel grit 220, type 304 ³⁾	○	○	○	○
SA42 Widened toeguard, stainless steel, Linen ³⁾	○	○	○	○
SA43 Suspension gear panelled on visible side, hairline stainless steel grit 220, type 304 ³⁾	○	○	○	○
SA43 Suspension gear panelled on visible side, stainless steel, Linen ³⁾	○	○	○	○
SA47 Glass door edge protection with panelling material (for solid glass doors) ³⁾	○	○	○	○
With shaft front wall: door model Fermator "40/10" and/or "Premium", glass door panels with surrounding frame without offset, visible frame width 120 mm (top / bottom) and 40 mm (at the side), without fire protection certificate; available door heights, see page 12.	○	○	○	○
Car door	STYLE	CHIC	ELEGANT	VERTICAL
Monitoring of closing edges of door				
High resolution light curtain (174 beams)	●	●	●	●
SA25 Door area motion detection system (infrared sensor) ³⁾	○	○	○	○
SA27 Additional car door locking device ³⁾	○	○	○	○
SA45 3D light grid ³⁾	○	○	○	○
Design of car door and door portal				
Hairline stainless steel grit 220, type 304	●	●	●	●
Stainless Steel, Diamond ³⁾	○	○	○	○
Stainless Steel, Linen	○	○	○	○
Stainless Steel, Leather	○	○	○	○
Powder coated RAL 9016 Traffic White ³⁾	-	-	-	○
Powder coated RAL 9006 White Aluminium ³⁾	-	-	-	○
Powder coated RAL 7032 Pebble Grey (only for door model Fermator "Premium PM")	○	○	○	○
Elevator car door panels, single-leaf	●	●	●	●
Elevator car door panels, twin-leaf ³⁾	○	○	○	○
Door sill made of aluminium	●	●	●	●
Door sill made of stainless steel	○	○	○	○
Glass door version				
SA30 Short cam for glass door ³⁾	○	○	○	○
SA31 Glass door panels with 50 mm surrounding frame for car doors ³⁾	○	○	○	○
SA33 Glass door panels with 50mm/25 mm surrounding frame for car doors ³⁾	○	○	○	○
SA41 Solid glass door panels for car doors ³⁾	○	○	○	○
SA47 Glass door edge protection with panelling material (for solid glass doors) ³⁾	○	○	○	○
With shaft front wall: door model Fermator "Premium PM", glass door panels with surrounding frame without offset, visible frame width 20 mm (top / bottom) and 40 mm (at the side), without fire protection certificate; available door heights, see page 12.	○	○	○	○

³⁾ Not available for door with shaft front wall (model landing door "40/10" respectively "Premium", model car door "Premium PM").
 ● Standard equipment, ○ option, – not currently available. Please contact our sales consultants regarding the availability of options.

Options

Notes

LEA® Comfort

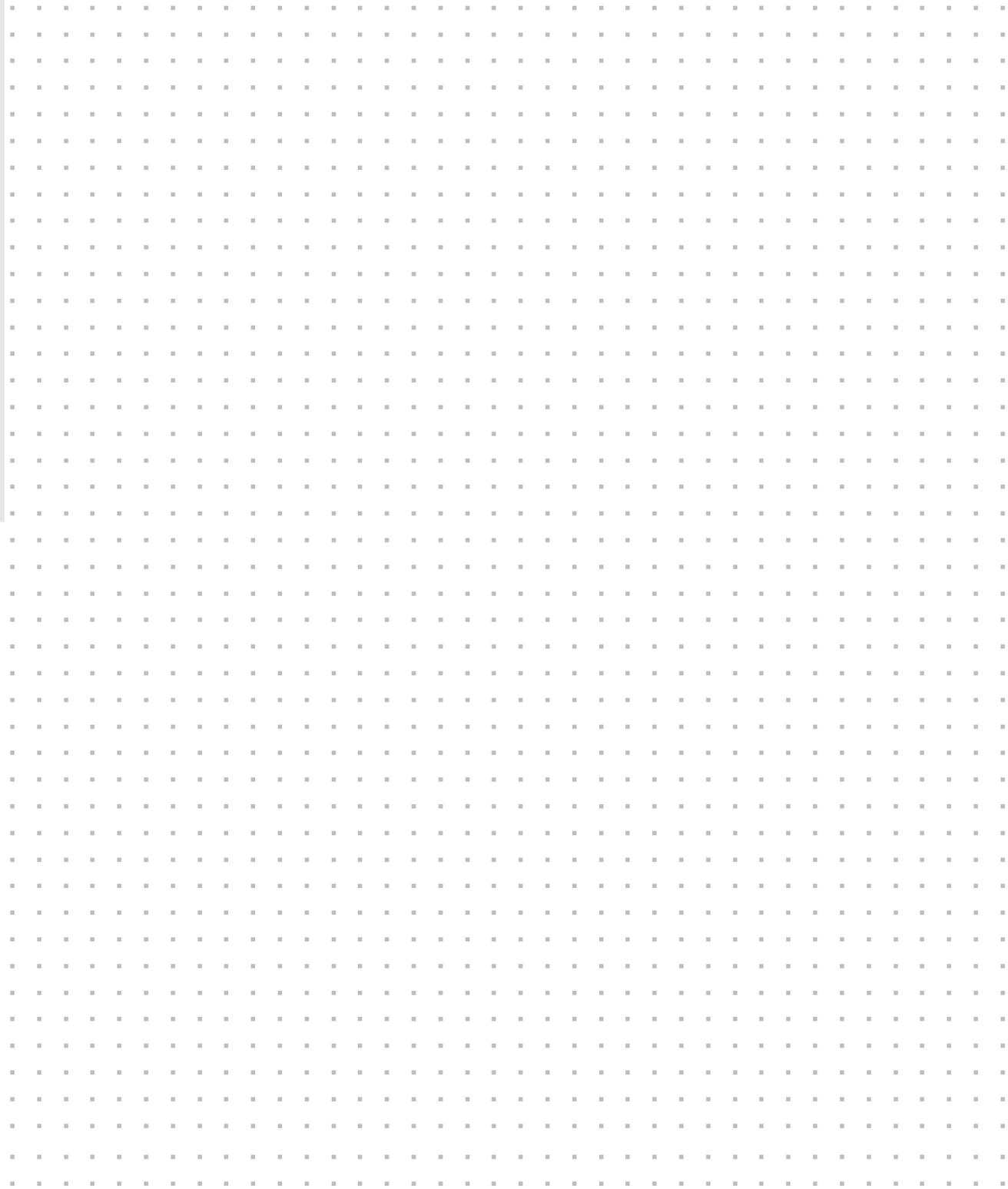
Technical data	STYLE	CHIC	ELEGANT	VERTICAL
Car ventilation				
Car ventilation – indirect, invisible ventilation	●	●	●	● ⁴⁾
Fan in car ceiling with automatic switch-on/off and coasting	○	○	○	○
Car ventilation visible, longitudinal holes in upper part of the car panels from Q > 2,000 kg	○	○	○	○
Car design				
Vertical Design	–	–	–	●
Uniform or individual elevator car operating panel division	–	–	–	○
Glass car	–	–	–	○
Glass rear wall	○	○	○	○
Miscellaneous	STYLE	CHIC	ELEGANT	VERTICAL
Counterweight				
Pulley guide at counterweight	○	○	○	○
Safety gear at counterweight ⁵⁾	○	○	○	○
Counterweight cladding, galvanised	○	○	○	○
Counterweight cladding, hairline stainless steel grit 220, type 304	○	○	○	○
Pulley guide at elevator car	○	○	○	○
Shaft equipment				
Shaft lighting	○	○	○	○
Shaft lighting can be switched on the car roof	○	○	○	○
Shaft pit ladder	○	○	○	○
Adjustable bracket				
Wall plugging for adjustable bracket	○	○	○	○
Anchor rail mounting, type HTA40/22	○	○	○	○
Shaft traverses	○	○	○	○
Design packages and painting				
Painting, design package 1	○	○	○	○
Painting, design package 2 on request	○	○	○	○
Noise reduction kit acc. to VDI 2566 SSTII (will be available at a later date)	○	○	○	○
Noise reduction kit according to VDI 2566 SSTIII (noise protection level) (will be available at a later date)	○	○	○	○
Regulations				
System version in accordance with EN 81-20/50	●	●	●	●
EN 81-70 package with verbal announcement	○	○	○	○
EN 81-70 package with inductor loop	○	○	○	○
Firefighter's elevator according to EN 81-72 ⁶⁾	○	○	○	○
Measures for installation in earthquake-prone areas acc. to EN 81-77 - earthquake category 1 ⁶⁾	○	○	○	○

⁴⁾ Not possible in version with full-glass car.

⁵⁾ Available in the rated load range Q = 450-4000 kg with v_{max.} = 1.6 m/s (with Q_{max.} = 3200 kg) and TH ≤ 60 m. Only possible in combination with conventional counterweight.

⁶⁾ The shaft dimensions may change compared to the standard.

LEA® Comfort



LEA® - Family

Standard	<p>At home in the standard range The economical and space-efficient solution for medium travel heights in the standard range. Reduced safety spaces available.</p> <p>Type: MRL Rated Load: 450 – 1.000 kg Travel height: 40 m Speed: 1.0 m/s</p>
Comfort	<p>The all-rounder Superior technology for exacting requirements and more heavily frequented buildings.</p> <p>Type: MRL Rated Load: 450 – 4.000 kg Travel height: 100 m Speed: up to 2.5 m/s</p>
Comfort Plus	<p>A classic Tried-and-tested elevator system with machine room and with geared or gearless drive.</p> <p>Type: MR Rated Load: 450 – 2.500 kg Travel height: 135 m Speed: up to 2.5 m/s</p>
Cargo	<p>Robust and reliable Sturdy freight elevator with machine room and with geared or gearless drive.</p> <p>Type: MR Rated Load: from 1.800 kg Speed: up to 1.0 m/s</p>



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System description and advantages

Product overview

LEA® Comfort Plus

LEA® Comfort Plus elevator system

With the LEA® Comfort Plus elevator kit, LiftEquip offers you a future oriented system solution for very sophisticated applications. As a premium passenger elevator with machine-room, it has an elaborate layout with good shaft usage and proven, only top quality components.

Use a control system of your choice! You can configure LEA® Comfort Plus into a bespoke product from your company by combining it with a control system of your choice. It is also possible to integrate further options of operating and indicator elements that are freely available on the market.

LEA® Comfort Plus exhibits the ultimate in flexibility when it comes to the car dimensions: millimetre-adjustment of the car width and the car depth. You can use one side-opening double-panel and two- or four-panel centre-opening doors. The high quality door system thyssenkrupp S8A/K8A is suitable for operation in advanced elevators for upmarket and highly frequented buildings. The modular system is offered with an entrance and open through entrance.

As a highlight LEA® Comfort Plus offers you fantastic car design: the design line Uni-Colour (with STYLE, CHIC and ELEGANT) has a wide range of attractive colours to choose from with an elegant separation between full-surface upper and lower wall sections. The classic VERTICAL design line with vertical wall lamella includes high quality stainless steel designs. The tasteful car design is rounded off by a wide range with LED illuminated ceilings and handrails. Further options such as glass doors and a full glass cabin are also possible.

LEA® Comfort Plus is a highly variable, economical and durable elevator system with a modern machine. By using a MFR frequency inverter with power regeneration it provides the perfect preconditions for energy-efficient operation.

* The on-site construction of the elevator shaft must meet the requirements of VDI 2566 SST II/III.

Safety

- System in accordance with EN 81-20/-50, for commencement of operation per individual inspection

Efficiency

- Modern drive technology:
 - proven, economical gear drive
 - highly efficient gearless machine
- Variable frequency control (VVVF), with power regeneration (optional)
- Energy-saving LED lighting

Reliability

- Equipped with robust and only high quality, long-life components and premium materials

Design

- Classic design (VERTICAL)
- Unique, high-quality Uni-Colour design (STYLE, CHIC, ELEGANT)
- A wide range of combination possibilities
- Invisible car ventilation system
- Millimetre-adjustment of the car
- Glass doors and glass elevator car available

Comfort

- Increased available car area
- Low noise (complies with VDI 2566 SST II/III)*
- Smooth running
- Well-being atmosphere

Scope of supply

- Broad range of uses
- High number of options

Flexibility

- Configurable into an elevator system from your company by deploying your preferred control system and the operating and indicator elements you wish to have.

New standards EN 81-20 and EN 81-50

Up until now, traction and hydraulic lifts were designed and put into service in accordance with EN 81-1 / -2. Both standards have been revised and are being replaced with the new standards EN 81-20 and -50.

The new standards contain expanded safety requirements which correspond to the current state of technology. A transitional period is in effect until 31 August 2017; after that time lifts may only be placed on the market in accordance with EN 81-20/-50.

Customer benefits by to EN 81-20/-50

- + Incorporation of further developments with respect to the current state of the technology (e.g., shortened buffer stroke)
- + Greater investment security (longer grandfathering under current legislation through application of the latest state of engineering)



Not included in the scope of supply of the LEA® Comfort Plus are:

Control system with control cabinet and measures for rescue of passengers, operating and indicator elements, external control panels, mounted resp. built-in control panel in the elevator car, emergency call system, car distribution box, travelling cable, shaft selector, shaft wiring, shaft lighting, inspection control and emergency stop switch, integration of the inverter, connection of the car lighting and the overload sensor, load measurement system and electrical installation in the machine-room.

Energy efficiency

With LEA® Comfort Plus you can configure an elevator system that achieves a high energy efficiency class. You thereby make a significant contribution to the reduction of ongoing operating and energy costs and lowering CO₂ emissions.



The LEA® Comfort Plus elevator system

The LEA® Comfort Plus elevator system is a flexible system solution for residential and mid-market to upmarket office / commercial buildings.

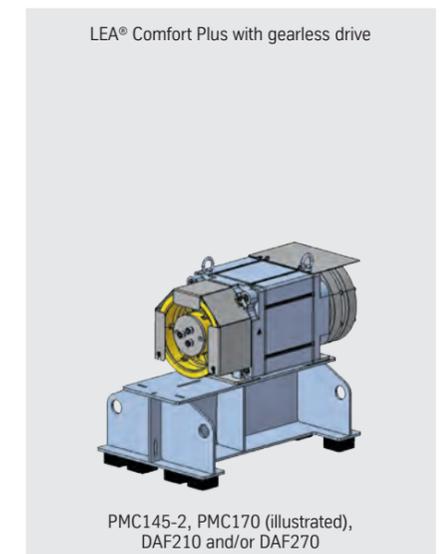
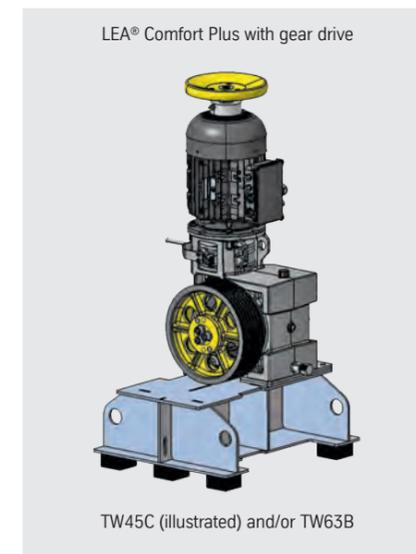
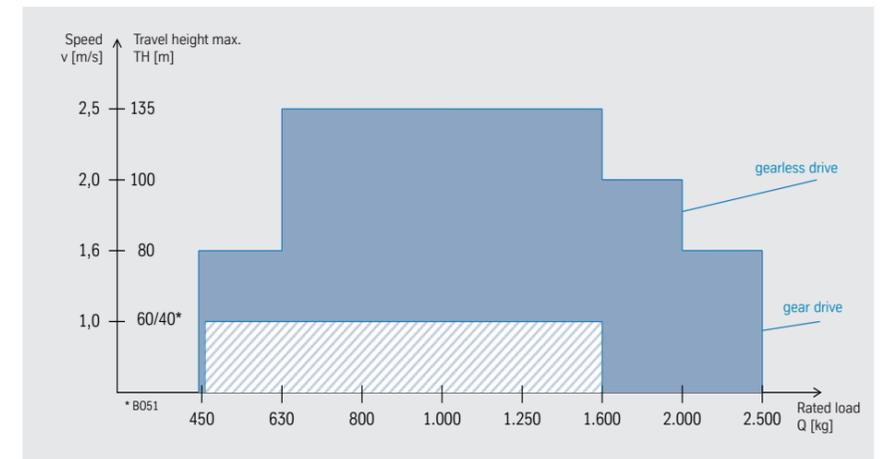
The LEA® Comfort Plus passenger elevator is conceived for new installations. The positioning of the drive technology in the machine room means that it is also ideal for use in modernisation for complete replacement of old systems with a highly modern elevator system. It combines quality and technology with an attractive design.

Two drive technologies

The LEA® Comfort Plus with gear drive is an economical solution in the lower range of performance, with a speed of 1.0 m/s and a maximum travel height of 40 m. The LEA® Comfort Plus with gearless drive covers the same performance range as the LEA® Comfort Plus with gear drive. Furthermore it offers applications with speed of 2.5 m/s and travel height up to 135 m.

Wide range of performance

LiftEquip offers the LEA® Comfort Plus in the following performance areas as alternatively with geared or with gearless drive.



Elevator system	LEA® Comfort Plus	
	with gear	with gearless
Rated load (Q)	[kg] 450 – 2500	
Speed (v)	[m/s] 1.0	1.0 – 2.5
Travel height max. (TH)	[m] 40	135
Machine room	with	
Machine	gear	gearless
Car dimensions	variable	
Residential building	•	•
Commercial / office buildings	•	•
Medium-height / high buildings	–	•

• Standard version and/or suitable for ..., ◯ Optional version, – Not available and/or not suitable for ...

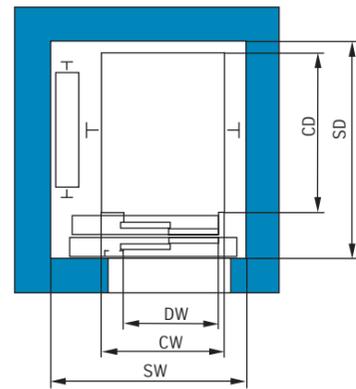
LEA® Comfort Plus

Technical overview I

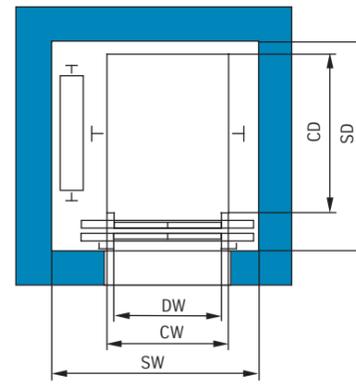
Technical Specifications I

LEA® Comfort Plus

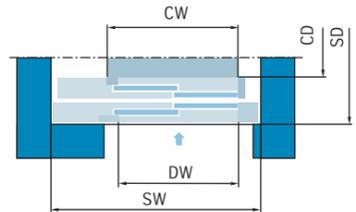
Car entrance with telescopic door (M2T) (1 entrance)



Car entrance with centre-opening door (M2Z) (1 entrance)

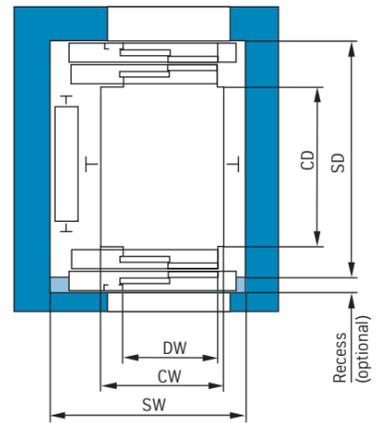


Landing door installation directly in the shaft

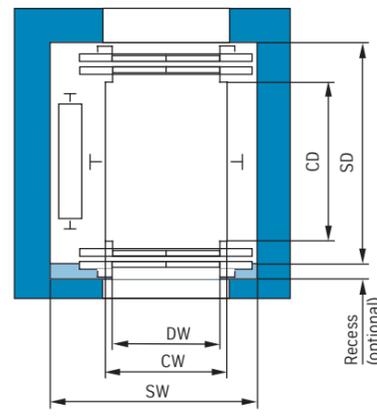


The landing door is fastened to the shaft wall by means of brackets. The brackets are secured to the wall with either drill fixing or with securing bolts on anchor rails (measurement in concrete according to CEN/TS 1992-4:2009) (only available for S8A) that are cast into the shaft wall or welded onto a shaft steel structure.

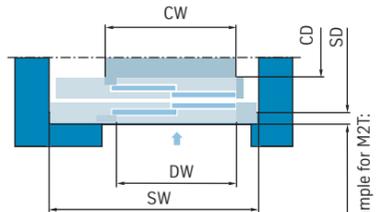
Car entrance with telescopic door (M2T) and recess (open through entrance)



Car entrance with centre-opening door (M2Z) and recess (open through entrance)

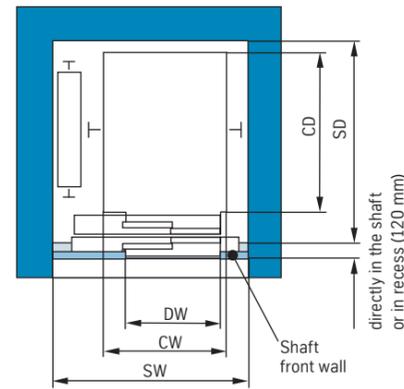


Landing door installation in the recess

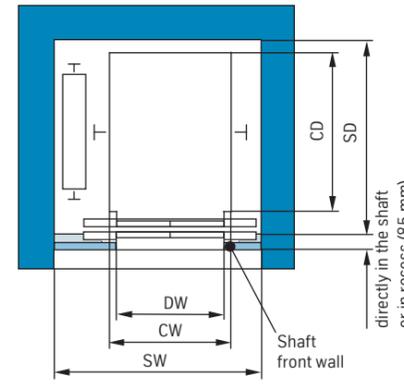


In the interest of economical utilisation of space, the landing door can optionally be installed in a recess.
Depth of the recess (optional):
- M2T 55 mm / 100 mm
- M2Z 20 mm / 60 mm
- M4TZ 55 mm / 100 mm

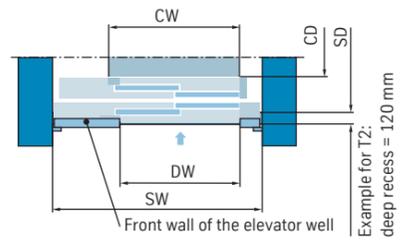
Car entrance with telescopic door Fermator (T2) and shaft front wall with gap cover (1 entrance)



Car entrance with centre-opening door Fermator (C2) and shaft front wall with gap cover (1 entrance)

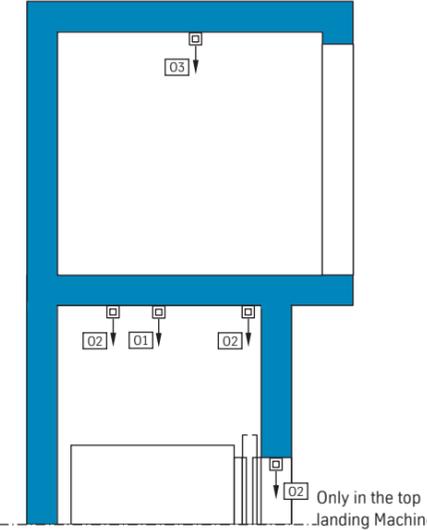


Landing door installation (Fermator model "40/10" or "Premium") in shaft front wall



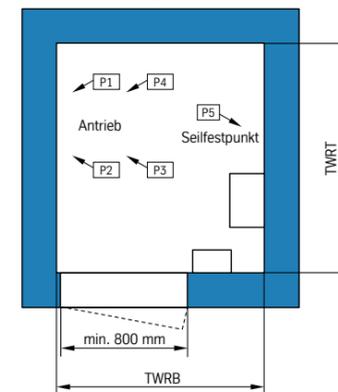
Optionally, the landing door are fitted with shaft front wall (fire protection certificate E 120). The S8A / K8A is not used.
Model landing door: Fermator "40/10" or "Premium"; Model car door: Fermator "Premium PM"; Versions: steel plate door, glass door. Installation is possible either directly in the shaft or in deep recess:
- T2 (comparable M2T), recess* = 120 mm
- C2 (comparable M2Z), recess* = 85 mm
- C4 (comparable M4TZ), recess* = 120 mm
*Doorframe FD = 60 mm

Forces in the machine room (ceiling) and in the shaft headroom

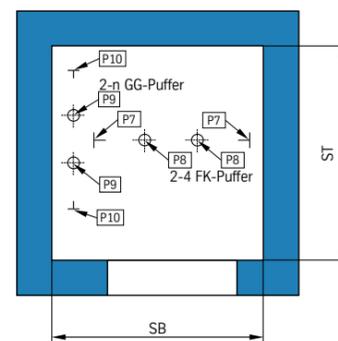


Key
CH = Car height
DH = Door height
SH = Headroom height / Shaft head height
SP = Pit / Shaft pit depth
TH = Travel height
HST = Landing distance
MRW = Machine room width
MRD = Machine room depth
MRH = Machine room height
FFL = Finished floor level
UFL = Unfinished floor level
Shaft tolerance ± 25 mm, for headroom height / shaft pit depth - 0 / + 25 mm

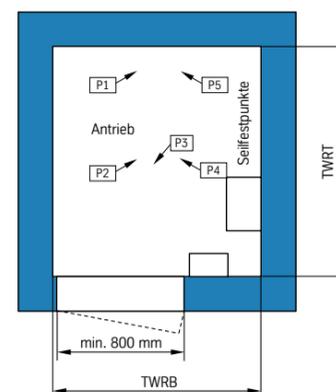
Forces in the machine room (bottom) (with counterweight sideways)



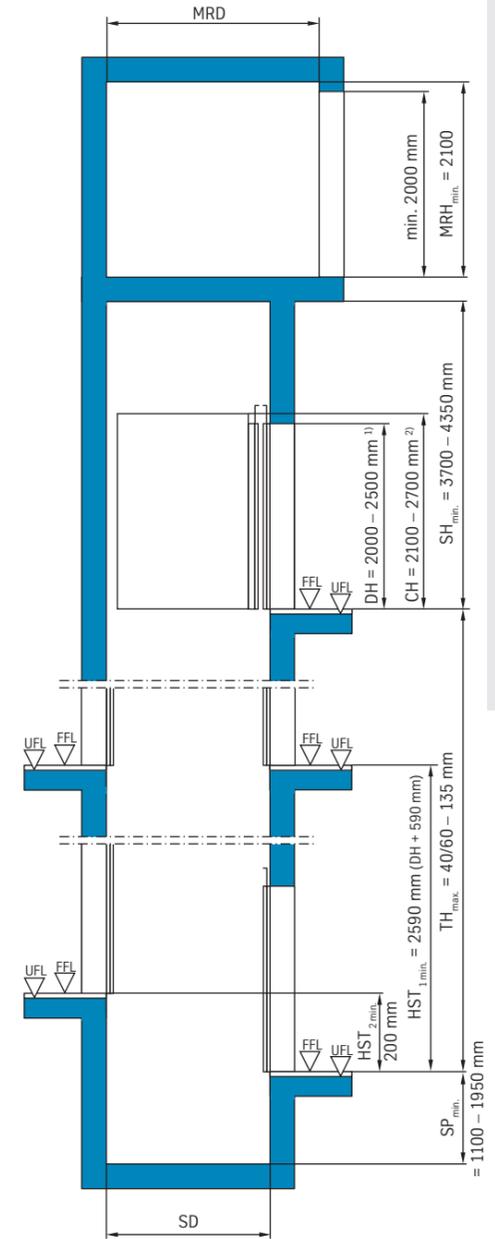
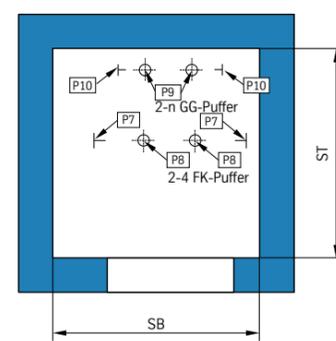
Forces in the shaft pit (counterweight sideways)



Forces in the machine room (bottom) (with counterweight rear)



Forces in the shaft pit (counterweight rear)



¹ With glass door in shaft front wall, the available door heights are restricted (see page 7).
² For accessories with Uni-Colour design: CH ≤ 2400 mm.

Key: CW = car width, SW = shaft width, CD = car depth, SD = shaft depth, DW = door width

LEA® Comfort Plus

Technical overview I

Technical overview I

Door model thyssenkrupp S8A / K8A: dimensions

Door type M2T



- Installation options:
- directly in the shaft
 - in recess 55 mm
 - in recess 100 mm

[mm]	Door width		
Door height	Steel plate door	Glass door (SA31/33)	Solid glass door (SA41)
	EN 81-20/50		
2000	700 – 1400	700 – 1200	
2100		700 – 1200	700 – 1150
2200	800 – 1400	800 – 1200	800 – 1100
2300		800 – 1200	800 – 1100
2400			
2500	900 – 1400	900 – 1200	

DH and DW in the grade of 100 mm, optional in the grade of 50 mm (SA 20).

Door type M2Z



- Installation options:
- directly in the shaft
 - in recess 20 mm
 - in recess 60 mm

[mm]	Door width		
Door height	Steel plate door	Glass door (SA31/33)	Solid glass door (SA41)
	EN 81-20/50		
2000	700 – 1400	700 – 1200	
2100		700 – 1200	700 – 1150
2200	800 – 1400	800 – 1200	800 – 1100
2300		800 – 1200	800 – 1100
2400			
2500	900 – 1400	900 – 1200	

DH and DW in the grade of 100 mm, optional in the grade of 50 mm (SA 20).

Door type M4TZ



- Installation options:
- directly in the shaft
 - in recess 55 mm
 - in recess 100 mm

[mm]	Door width		
Door height	Steel plate door	Glass door (SA31/33)	Solid glass door (SA41)
	EN 81-20/50		
2000	800 – 2500	1300 – 2200	1400 – 2200
2100			
2200	1000 – 2500	1300 – 2200	1600 – 2200
2300	1200 – 2500	1400 – 2200	
2400	1400 – 2500	1600 – 2200	
2500	1500 – 2500		

DH and DW in the grade of 100 mm, optional in the grade of 50 mm to DW ≤ 1400 mm (SA 20).

- Notes:
- The comfort door "S8A / K8A" offers a very wide range of versions and options. This enables individual adaptation to design requirements in the building. A version with shaft front wall is not available.
 - For the landing doors, there are numerous fire protection certificates in accordance with EN 81-58, GHOST and BS476. The glass doors have no fire protection certificate.
 - There are many varied versions of the landing and car door including glass door frame.
 - The glass door panels are designed with a surrounding frame, without offset between the glass and frame. Solid glass door panels are also available.
 - The car door can be equipped with different systems for closing monitoring.
 - The range of available versions can be found in the options list as of page 35/36 and in detail in the brochure "Comfort door S8A / K8A".
 - For technical reasons, not all combination possibilities are possible for doors with respect to door designs, door widths and door heights. For details, please refer to the appropriate technical documents
 - For the standard configurations of the LEA® Comfort Plus system not all door dimensions are shown. The larger range of door dimensions – as specified here – is technically possible.

Door model Fermator "40/10" and/or "Premium" and "Premium PM": dimensions

Door type T2 in shaft front wall



- Installation options:
- directly in the shaft
 - in recess 120 mm*

[mm]	Door width			
Door height	Steel plate door		Glass door with frame	
	EN 81-20/50			
2000	700 – 1200 ^{1) 3)}	1300 – 1400 ^{2) 3)}	700 – 1200 ^{1) 3)}	1300 – 1400 ^{2) 3)}
2100				
2200	700 – 1200 ^{1) 3)}	1300 – 1400 ^{2) 3)}		
2300				
2400				
2500				

DH and DW in the grade of 100 mm.
¹⁾ Landing door "40/10" ²⁾ Landing door "Premium" ³⁾ Car door "Premium PM"

Door type C2 in shaft front wall

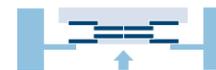


- Installation options:
- directly in the shaft
 - in recess 85 mm*

[mm]	Door width	
Door height	Steel plate door	Glass door with frame
	EN 81-20/50	
2000	700 – 1400 ^{1) 3)}	700 – 1400 ^{1) 3)}
2100		
2200	700 – 1400 ^{1) 3)}	
2300		
2400		
2500		

DH and DW in the grade of 100 mm.
¹⁾ Landing door "40/10" ³⁾ Car door "Premium PM"

Door type C4 in shaft front wall



- Installation options:
- directly in the shaft
 - in recess 120 mm*

[mm]	Door width	
Door height	Steel plate door	Glass door with frame
	EN 81-20/50	
2000	900 – 2400 ^{1) 3)}	900 – 2400 ^{1) 3)}
2100		
2200	900 – 2400 ^{1) 3)}	
2300		
2400		
2500		

DH and DW in the grade of 100 mm.
¹⁾ Landing door "40/10" ³⁾ Car door "Premium PM"

*Doorframe FD = 60 mm

- Notes:
- The landing doors "40/10" and "Premium" are available exclusively in shaft front wall.
 - The shaft front wall has the fire protection certificate E120 according to EN 81-58. The glass doors have no fire protection certificate.
 - Design variants of the landing / car door, including glass door frame and the shaft front wall: powder-coated RAL 7032 gravel grey, stainless steel grain 220 / Linen / Leather.
 - The glass door panels are designed with a surrounding frame, without offset between the glass and frame. Visible frame width: 120 mm (top / bottom), 40 mm (at the side).
 - The car door is equipped with a light curtain.
 - The shaft front wall has a width in steps of 10 mm.
 - For the standard configurations of the LEA® Comfort Plus system not all door dimensions are shown. The larger range of door dimensions – as specified here – is technically possible.

Technical Specifications II

with geared drive

Technical Specifications II

with geared drive

Two-panel telescopic sliding doors thyssenkrupp S8A/K8A (M2T) and Fermator (optional)



Rated load (Q)	(kg)	450 kg		630 kg		800 kg		1000 kg		1250 kg		1600 kg	
Speed (v)	(m/s)	1.0											
Max. travel height	(m)	40											
Number of passengers		6		8		10		13		16		20	
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16											
Car width (CW) ^{1) 10)}	(mm)	1000	1100	1350	1200	1200	1400						
Car depth (CD) ^{1) 2)}	(mm)	1250	1400	1400	1900	2300	2400						
Car height (basic size) ¹²⁾	(mm)	2100 – 2700											
Max. weight of car	(kg)	900	1260	1600	2000	1785	2200						
Door width (DW) ^{3) 11)}	(mm)	700-1000	700-1200	700-1400									
Door height (DH) ⁴⁾	(mm)	2000 – 2500											
Shaft width (SW) ⁵⁾	(mm)	1515	1615	1855	1705	1745	2275						
Shaft depth (SD) – door in shaft ^{6) 11)}	(mm)	1650	1890	1800	2040	1800	2040	2300	2540	2700	2940	2800	3040
Shaft depth (SD) – door in recess (55 mm) ⁶⁾	(mm)	1595	1780	1745	1930	1745	1930	2245	2430	2645	2830	2745	2930
Shaft depth (SD) – door in recess (100 mm) ^{6) 11)}	(mm)	1550	1690	1700	1840	1700	1840	2200	2340	2600	2740	2700	2840
Machine room depth (MRD) min. ⁷⁾	(mm)	2340	2550	2490	2630	2490	2630	2710	2850	2740	3080	2800	3130
Min. shaft headroom height [CH = 2100] ⁸⁾	(mm)	3300											
Shaft pit depth (SP)	(mm)	1100						1150					
Min. height between floors [DH + 590 mm] ⁹⁾	(mm)	2590											

Note ¹⁾ to ¹²⁾ see pages 9.

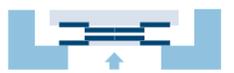
Two-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load (Q)	(kg)	450 kg		630 kg		800 kg		1000 kg		1250 kg		1600 kg	
Speed (v)	(m/s)	1.0											
Max. travel height	(m)	40											
Number of passengers		6		8		10		13		16		20	
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16											
Car width (CW) ^{1) 10)}	(mm)	1000	1100	1350	1200	1200	1400						
Car depth (CD) ^{1) 2)}	(mm)	1250	1400	1400	1900	2300	2400						
Car height (basic size) ¹²⁾	(mm)	2100 – 2700											
Max. weight of car	(kg)	900	1260	1600	2000	1785	2200						
Door width (DW) ³⁾	(mm)	700-1000	700-1200	700-1400									
Door height (DH) ⁴⁾	(mm)	2000 – 2500											
Shaft width (SW) ⁵⁾	(mm)	1760	1960	2020	1960	1965	2360						
Shaft depth (SD) – door in shaft ^{6) 11)}	(mm)	1590	1770	1740	1920	1740	1920	2240	2420	2640	2820	2740	2920
Shaft depth (SD) – door in recess (20 mm) ⁶⁾	(mm)	1570	1730	1720	1880	1720	1880	2220	2380	2620	2780	2720	2880
Shaft depth (SD) – door in recess (60 mm) ^{6) 11)}	(mm)	1530	1650	2680	1800	1680	1800	2180	2300	2580	2700	2680	2800
Machine room depth (MRD) min. ⁷⁾	(mm)	2340	2490	2490	2570	2490	2570	2710	2790	2740	3020	2790	3070
Min. shaft headroom height [CH = 2100] ⁸⁾	(mm)	3300											
Shaft pit depth (SP)	(mm)	1100						1150					
Min. height between floors [DH + 590 mm] ⁹⁾	(mm)	2590											

Note ¹⁾ to ¹²⁾ see pages 9.

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load (Q)	(kg)	450 kg		630 kg		800 kg		1000 kg		1250 kg		1600 kg	
Speed (v)	(m/s)	1.0											
Max. travel height	(m)	40											
Number of passengers		6		8		10		13		16		20	
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16											
Car width (CW) ^{1) 10)}	(mm)	1000	1100	1350	1200	1200	1400						
Car depth (CD) ^{1) 2)}	(mm)	1250	1400	1400	1900	2300	2400						
Car height (basic size) ¹²⁾	(mm)	2100 – 2700											
Max. weight of car	(kg)	900	1260	1600	2000	1785	2200						
Door width (DW) ^{3) 11)}	(mm)	800-1000	800-1200	800-1400									
Door height (DH) ⁴⁾	(mm)	2000 – 2500											
Shaft width (SW) ⁵⁾	(mm)	1545	1670	1860	1720	1745	2140						
Shaft depth (SD) – door in shaft ^{6) 11)}	(mm)	1650	1890	1800	2040	1800	2040	2300	2540	2700	2940	2800	3040
Shaft depth (SD) – door in recess (55 mm) ⁶⁾	(mm)	1595	1780	1745	1930	1745	1930	2245	2430	2645	2830	2745	2930
Shaft depth (SD) – door in recess (100 mm) ^{6) 11)}	(mm)	1550	1690	1700	1840	1700	1840	2200	2340	2600	2740	2700	2840
Machine room depth (MRD) min. ⁷⁾	(mm)	2340	2550	2490	2630	2490	2630	2710	2850	2740	3080	2800	3130
Min. shaft headroom height [CH = 2100] ⁸⁾	(mm)	3300											
Shaft pit depth (SP)	(mm)	1100						1150					
Min. height between floors [DH + 590 mm] ⁹⁾	(mm)	2590											

¹⁾ Preferred dimensions, car dimensions can be varied in 1-mm steps. With rated load Q = 1000 kg, only preferred dimension available.

²⁾ Car depth CD min. = 1200 mm.

³⁾ With adequate car width (CW), the door width DW is max. = 1400 mm (M2T).
Preferred dimensions of the door widths: DW = 800 mm (Q = 450 kg) and/or DW = 900 mm (Q = 630 - 1300 kg),
DW = 1100 mm (Q = 1600 kg, M2Z), DW = 1200 mm (Q = 1600 kg, M2T), DW = 1300 mm (Q = 1600 kg, M4TZ).

⁴⁾ Availability of the door height (DH) depending on the door width (DW).

⁵⁾ Based on preferred door width (DW) and with car door lock (SA27).

Only possible in combination with designs: sliding guide on the counterweight as well as without safety gear on the counterweight.

⁶⁾ Related to preferred dimensions of the car depth (CD).

⁷⁾ If landing door is on the rear side in a recess, the depth of the door recess (55 and/or 100 mm) must be subtracted to determine the min. machine room depth (TWRT).

⁸⁾ Only possible in combination with versions: sliding guide on the elevator car and on counterweight.

For car railing height of 700 mm (changed shaft headroom height with differing railing height).

⁹⁾ Height between floors min. = 200 mm with displaced open through entrance.

¹⁰⁾ Car width CW min. = 1200 mm (with Q = 1000 kg).

¹¹⁾ The following information applies only to landing doors with shaft front wall: model landing door Fermator "40/10" respectively "Premium", model car door Fermator "Premium PM".

Type T2 (comparable M2T): DW = 700 - 1400 mm; installation is possible either directly in the shaft or in deep recess = 115 mm.

Type C2 (comparable M2Z): DW = 700 - 1400 mm; installation is possible either directly in the shaft or in deep recess = 65 mm.

Type C4 (comparable M4TZ): DW = 900 - 2400 mm; installation is possible either directly in the shaft or in deep recess = 115 mm.

¹²⁾ For accessories with Uni-Colour design: CH ≤ 2400 mm.

Technical Specifications II

with geared drive

Technical Specifications III

with gearless drive

Electrical data

Rated load (Q)	450 kg	630 kg	800 kg
Drive	Asynchronous drive, frequency-controlled (VVVF) with worm gear		
Speed (m/s)	1.0		
Drive type	TW45C		
Weight of the drive (kg)	260		
Control system	MFR 5,5 / MFC 30-10	MFR 5,5 / MFR 7,5 / MFC 30-15	MFR 7,5 / MFC 30-15
Max. number of trips per hour ¹⁾	180 s/h		

Rated load (Q)	1000 kg	1250 kg	1600 kg
Drive	Asynchronous drive, frequency-controlled (VVVF) with worm gear		
Speed (m/s)	1.0		
Drive type	TW63B		
Weight of the drive (kg)	400		
Control system	MFR 18 / MFC 30-26	MFR 18 / MFC 30-40	MFR 18 / MFC 30-40
Max. number of trips per hour ¹⁾	180 s/h		

¹⁾ Higher number of trips per hour possible on request.

Occurring forces

Rated load (Q)	[kg]	450	630	800	1000	1250	1600						
Max. weight of car (P _{max})	[kg]	900	1260	1600	2000	2000	2000						
Speed (v)	[m/s]	1,0											
Load case ¹⁾		N	S	N	S	N	S						
P1 Machine base frame (machine room)	[kN]	10	27	14	37	18	50	21	57	23	65	25	69
P2 Machine base frame (machine room)	[kN]	4	11	6	15	7	20	8	22	9	25	10	27
P3/P4 Machine base frame (machine room)	[kN]	5	13	7	18	9	23	10	26	11	30	12	32
P5 Rope fixing point (machine room)	[kN]	7	20	10	28	14	40	16	43	18	50	20	54
P7 Guide rail cabin (shaft pit) ²⁾	[kN]	17		22		27		36		41		46	
P8 Buffer cabine (shaft pit) ³⁾	[kN]	27		38		48		59		67		75	
P9 Buffer counterweight (shaft pit) ³⁾	[kN]	45		62		79		99		110		118	
P10 Guide rail counterweight (shaft pit.)	[kN]	4	15	4	19	4	23	4	28	4	31	4	33
O1 Lifting eye for scaffoldless installation (shaft ceiling)	[kN]	37						38					
O2 Lifting eye for doors (shaft ceiling)	[kN]	10						10					
O3 Lifting eye for drive (machine room ceiling)	[kN]	10						10					

1) Load case "N": normal operation, dynamic load; Load case "S": exceptional load, For example, when the catch device is activated or during buffer travel. 2) per guide rail.
 3) Total load evenly distributed on all buffers.
 The listed values for P7 - P10 are guideline values since the forces are also still dependent on the type, speed, delivery height, etc. The forces P8, P9 under the buffers and the forces P7, P10 due to triggered catch devices under the rails do not act simultaneously. The exact force information is shown in the annex drawing.



Two-panel telescopic opening door thyssenkrupp S8A/K8A (M2T) and Fermator (optional)

Rated load	Q	[kg]	450				630				800					
Speed	v	[m/s]	1,0	1,6	1,0	1,6	2,0	2,5	1,0	1,6	2,0	2,5				
Rope attachment	r		2:1													
Travel height max.	TH	[m]	60	80	60	80	100	135	60	80	100	135				
Number of passengers			6				8				10					
Dual entrance			no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings ¹⁾			16	20	16	20	30	40	16	20	30	40				
Car width ²⁾	CW	[mm]	1000				1100				1350					
Car depth ²⁾	CD	[mm]	1250				1400				1400					
Car height (rough height) ³⁾	CH	[mm]	2100-2700													
Door width ^{4) 5)}	DW	[mm]	700-1000				700-1200				700-1400					
Door height ^{4) 5)}	DH	[mm]	2000-2500													
Headroom height conventional (CH2100)	[mm]		3300	3500	3300	3500	3715	3950	3300	3500	3715	3950				
Shaft depth conventional	SD	[mm]	1100	1200	1100	1200	1500	1750	1100	1200	1500	1750				
Headroom height reduced (CH2100) ⁶⁾	.	[mm]	3100/2900	-	3100/2900	-	-	-	3100/2900	-	-	-				
Shaft depth reduced ⁷⁾	.	[mm]	900	-	900	-	-	-	900	-	-	-				
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]		2590													

Counterweight (CW) side

Car width min.-max.	[mm]	1000-2200				1100-2200				1000-2200				1100-2200				
Car depth min.-max.	[mm]	1250-2100				1250-1400 1400-2200				1250-2100				1400-2200				
Shaft width (calculated for door width)	SW	[mm]	1525 (DW800)				1615 (DW900)				1610 (DW900)				1875 (DW900)			
Shaft depth-door (S8A) in the shaft	SD	[mm]	1650	1890	1650	1890	1800	2040	1800	2040	1800	2040	1800	2040	1800	2040	1800	2040
Shaft depth-door (S8A) in the recess (55)	SD	[mm]	1595	1780	1595	1780	1745	1930	1745	1930	1745	1930	1745	1930	1745	1930	1745	1930
Shaft depth-door (S8A) in the recess (100)	SD	[mm]	1550	1690	1550	1690	1700	1840	1700	1840	1700	1840	1700	1840	1700	1840	1700	1840
Machine-room-wide min.	MRW	[mm]	width															
Machine-room-deep min.	MRW	[mm]	on request															

Counterweight (CW) rear

Car width min.-max.	[mm]	1000-2200				-				1000-2200				-			
Car depth min.-max.	[mm]	1250-1600				-				1250-1600				-			
Shaft width (calculated for door width)	SW	[mm]	1505 (DW800)	-	1505 (DW800)	-	1605 (DW900)	-	1605 (DW900)	-	-	-	1645 (DW900)	-	1645 (DW900)	-	-
Shaft depth-door (S8A) in the shaft	SD	[mm]	1880	-	1880	-	2030	-	2030	-	-	-	2030	-	2030	-	-
Shaft depth-door (S8A) in the recess (55)	SD	[mm]	1825	-	1825	-	1975	-	1975	-	-	-	1975	-	1975	-	-
Shaft depth-door (S8A) in the recess (100)	SD	[mm]	1780	-	1780	-	1930	-	1930	-	-	-	1930	-	1930	-	-
Machine-room-wide min.	MRW	[mm]	Width														
Machine-room-deep min.	MRW	[mm]	on request														

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / - 0 mm.
 2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.
 3) When equipped with uni-color design, CH is ≤ 2400 mm.
 4) Observe the availability of the door height (DH) in dependence of the door width (DW).
 5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“. Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible. Type C2 (comparable to M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm. Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.
 6) Reduced shaft head height available for Q ≤ 1000 kg.
 7) Reduced shaft depth available for Q ≤ 1000 kg.
 8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Technical Specifications III

with gearless drive

Technical Specifications III

with gearless drive

Two-panel telescopic opening door thyssenkrupp S8A/K8A (M2T) and Fermator (optional)



Rated load	Q [kg]	1000 (deep)								1000 (wide)							
		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5	
Speed	v [m/s]	1,0															
Rope attachment	r	2:1															
Travel height max.	TH [m]	60		80		100		135		60		80		100		135	
Number of passengers		13															
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width ²⁾	CW [mm]	1100								1600							
Car depth ²⁾	CD [mm]	2100								1400							
Car height (rough height) ³⁾	CH [mm]	2100-2700															
Door width ⁴⁾⁵⁾	DW [mm]	700-1400															
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500															
Headroom height conventional (CH2100)	[mm]	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950
Shaft depth conventional	SD [mm]	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200	1500	1750
Headroom height reduced (CH2100) ⁶⁾	[mm]	3100/2900															
Shaft depth reduced ⁷⁾	[mm]	900						900									
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590															
Counterweight (CW) side																	
Car width min.-max.	[mm]	1000-2200				1100-2200				1000-2200				1100-2200			
Car depth min.-max.	[mm]	1250-2100				1400-2200				1250-2100				1400-2200			
Shaft width (calculated for door width)	SW [mm]	1615 (DW900)				1610 (DW900)				2115 (DW1100)				2110 (DW1100)			
Shaft depth-door (S8A) in the shaft	SD [mm]	2500	2740	2500	2740	2500	2740	2500	2740	1800	2040	1800	2040	1800	2040	1800	2040
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2445	2630	2445	2630	2445	2630	2445	2630	1745	1930	1745	1930	1745	1930	1745	1930
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2400	2540	2400	2540	2400	2540	2400	2540	1700	1840	1700	1840	1700	1840	1700	1840
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															
Counterweight (CW) rear																	
Car width min.-max.	[mm]	-								1000-2200				-			
Car depth min.-max.	[mm]	-								1250-1600				-			
Shaft width (calculated for door width)	SW [mm]	-				1905 (DW1100)				-				1905 (DW1100)			
Shaft depth-door (S8A) in the shaft	SD [mm]	-								2030				-			
Shaft depth-door (S8A) in the recess (55)	SD [mm]	-								1975				-			
Shaft depth-door (S8A) in the recess (100)	SD [mm]	-								1930				-			
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Two-panel telescopic opening door thyssenkrupp S8A/K8A (M2T) and Fermator (optional)



Rated load	Q [kg]	1250								1600							
		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5	
Speed	v [m/s]	1,0															
Rope attachment	r	2:1															
Travel height max.	TH [m]	60		80		100		135		60		80		100		135	
Number of passengers		16															
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width ²⁾	CW [mm]	1400 (CW side) / 1750 (CW rear)								1700 (CW side) / 2100 (CW rear)							
Car depth ²⁾	CD [mm]	2000 (CW side) / 1600 (CW rear)								2000 (CW side) / 1600 (CW rear)							
Car height (rough height) ³⁾	CH [mm]	2100-2700															
Door width ⁴⁾⁵⁾	DW [mm]	700-1400															
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500															
Headroom height conventional (CH2100)	[mm]	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950
Shaft depth conventional	SD [mm]	1150	1250	1500	1750	1150	1250	1500	1750	1150	1250	1500	1750	1150	1250	1500	1750
Headroom height reduced (CH2100) ⁶⁾	[mm]	-															
Shaft depth reduced ⁷⁾	[mm]	-															
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590															
Counterweight (CW) side																	
Car width min.-max.	[mm]	1100-2200								1100-2200							
Car depth min.-max.	[mm]	1250-2500				1400-2500				1250-2500				1400-2500			
Shaft width (calculated for door width)	SW [mm]	1950 (DW1100)								2250 (DW1300)							
Shaft depth-door (S8A) in the shaft	SD [mm]	2400	2640	2400	2640	2400	2640	2400	2640	2400	2640	2400	2640	2400	2640	2400	2640
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2345	2530	2345	2530	2345	2530	2345	2530	2345	2530	2345	2530	2345	2530	2345	2530
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2300	2440	2300	2440	2300	2440	2300	2440	2300	2440	2300	2440	2300	2440	2300	2440
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															
Counterweight (CW) rear																	
Car width min.-max.	[mm]	1100-2200								-							
Car depth min.-max.	[mm]	1250-1600								-							
Shaft width (calculated for door width)	SW [mm]	2060 (CW1100)	-	2060 (CW1100)	-	-	-	-	-	2410 (CW1300)	-	2410 (CW1300)	-	-	-	-	-
Shaft depth-door (S8A) in the shaft	SD [mm]	2230	-	2230	-	-	-	-	-	2230	-	2030	-	-	-	-	-
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2175	-	2175	-	-	-	-	-	2175	-	2175	-	-	-	-	-
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2130	-	2130	-	-	-	-	-	2130	-	2130	-	-	-	-	-
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Technical Specifications III

with gearless drive

Technical Specifications III

with gearless drive

Two-panel telescopic opening door thyssenkrupp S8A/K8A (M2T) and Fermator (optional)



Rated load	Q [kg]	2000				2500					
		v [m/s]		2:1		1,0		1,6			
Speed	v	1,0		1,6		2,0		1,0		1,6	
Rope attachment	r					2:1					
Travel height max.	TH [m]	60		80		100		60		80	
Number of passengers		26				33					
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		16		20	
Car width ²⁾	CW [mm]	1950				1800					
Car depth ²⁾	CD [mm]	2100				2700					
Car height (rough height) ³⁾	CH [mm]	2100-2700									
Door width ⁴⁾⁵⁾	DW [mm]	700-1400									
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500									
Headroom height conventional (CH2100)	[mm]	3360		3515		3715		3360		3515	
Shaft depth conventional	SD [mm]	1300		1500				1300		1500	
Headroom height reduced (CH2100) ⁶⁾	[mm]					-					
Shaft depth reduced ⁷⁾	[mm]					-					
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590									
Counterweight (CW) side											
Car width min.-max.	[mm]	1400-2200									
Car depth min.-max.	[mm]	1250-3050				1500-3050					
Shaft width (calculated for door width)	SW [mm]	2575 (DW1400)				2430 (DW1400)					
Shaft depth-door (S8A) in the shaft	SD [mm]	2500	2740	2500	2740	2500	2740	3100	3340	3100	3340
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2445	2630	2445	2630	2445	2630	3045	3230	3045	3230
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2400	2540	2400	2540	2400	2540	3000	3140	3000	3140
Machine-room-wide min.	MRW [mm]	width									
Machine-room-deep min.	MRW [mm]	on request									
Counterweight (CW) rear											
Car width min.-max.	[mm]	-									
Car depth min.-max.	[mm]	-									
Shaft width (calculated for door width)	SW [mm]	-									
Shaft depth-door (S8A) in the shaft	SD [mm]	-									
Shaft depth-door (S8A) in the recess (55)	SD [mm]	-									
Shaft depth-door (S8A) in the recess (100)	SD [mm]	-									
Machine-room-wide min.	MRW [mm]	-									
Machine-room-deep min.	MRW [mm]	-									

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

- 2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.
- 3) When equipped with uni-color design, CH is ≤ 2400 mm.
- 4) Observe the availability of the door height (DH) in dependence of the door width (DW).
- 5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.
 - Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.
 - Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.
 - Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.
- 6) Reduced shaft head height available for Q ≤ 1000 kg.
- 7) Reduced shaft depth available for Q ≤ 1000 kg.
- 8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Notes ¹⁾ to ¹³⁾ see page 14.

Two-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load	Q [kg]	450				630				800			
		v [m/s]		2:1		1,0		1,6		2,0		2,5	
Speed	v	1,0		1,6		1,0		1,6		2,0		2,5	
Rope attachment	r					2:1							
Travel height max.	TH [m]	60		80		60		80		100		135	
Number of passengers		6				8				10			
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		16		20		30		40	
Car width ²⁾	CW [mm]	1000				1100				1350			
Car depth ²⁾	CD [mm]	1250				1400				1400			
Car height (rough height) ³⁾	CH [mm]					2100-2700							
Door width ⁴⁾⁵⁾	DW [mm]	700-1000				700-1200				700-1400			
Door height ⁴⁾⁵⁾	DH [mm]					2000-2500							
Headroom height conventional (CH2100)	[mm]	3300	3500	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500
Shaft depth conventional	SD [mm]	1100	1200	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200
Headroom height reduced (CH2100) ⁶⁾	[mm]	3100/2900				-				3100/2900			
Shaft depth reduced ⁷⁾	[mm]	900				-				900			
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]					2590							
Counterweight (CW) side													
Car width min.-max.	[mm]	1000-2200				1100-2200				1000-2200			
Car depth min.-max.	[mm]	1250-2100				1250-1400 1400-2200				1250-2100 1400-2200			
Shaft width (calculated for door width)	SW [mm]	1760 (DW800)				1960 (DW900)				2300 (DW900) 2025 (DW900)			
Shaft depth-door (S8A) in the shaft	SD [mm]	1590	1770	1590	1770	1740	1920	1740	1920	1740	1920	1740	1920
Shaft depth-door (S8A) in the recess (20)	SD [mm]	1570	1730	1570	1730	1720	1880	1720	1880	1720	1880	1720	1880
Shaft depth-door (S8A) in the recess (60)	SD [mm]	1530	1650	1530	1650	1680	1800	1680	1800	1680	1800	1680	1800
Machine-room-wide min.	MRW [mm]	width				width				width			
Machine-room-deep min.	MRW [mm]	on request				on request				on request			
Counterweight (CW) rear													
Car width min.-max.	[mm]	1000-2200				-				1000-2200			
Car depth min.-max.	[mm]	1250-1600				-				1250-1600			
Shaft width (calculated for door width)	SW [mm]	1760 (DW800)	-	1760 (DW800)	-	1960 (DW900)	-	1960 (DW900)	-	1960 (DW900)	-	1960 (DW900)	-
Shaft depth-door (S8A) in the shaft	SD [mm]	1820	-	1820	-	1970	-	1970	-	1970	-	1970	-
Shaft depth-door (S8A) in the recess (20)	SD [mm]	1800	-	1800	-	1950	-	1950	-	1950	-	1950	-
Shaft depth-door (S8A) in the recess (60)	SD [mm]	1760	-	1760	-	1910	-	1910	-	1910	-	1910	-
Machine-room-wide min.	MRW [mm]	width				width				width			
Machine-room-deep min.	MRW [mm]	on request				on request				on request			

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

- 2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.
- 3) When equipped with uni-color design, CH is ≤ 2400 mm.
- 4) Observe the availability of the door height (DH) in dependence of the door width (DW).
- 5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.
 - Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.
 - Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.
 - Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.
- 6) Reduced shaft head height available for Q ≤ 1000 kg.
- 7) Reduced shaft depth available for Q ≤ 1000 kg.
- 8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Notes ¹⁾ to ¹³⁾ see page 14.

Technical Specifications III

with gearless drive

Technical Specifications III

with gearless drive

LEA® Comfort Plus

Two-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load	Q [kg]	1000 (deep)								1000 (wide)									
		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5			
Speed	v [m/s]	1,0																	
Rope attachment	r	2:1																	
Travel height max.	TH [m]	60		80		100		135		60		80		100		135			
Number of passengers		13																	
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes		
Max. number of landings		16		20		30		40		16		20		30		40			
Car width ²⁾	CW [mm]	1100								1600									
Car depth ²⁾	CD [mm]	2100								1400									
Car height (rough height) ³⁾	CH [mm]	2100-2700																	
Door width ⁴⁾⁵⁾	DW [mm]	700-1400																	
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500																	
Headroom height conventional (CH2100)	[mm]	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950		
Shaft depth conventional	SD [mm]	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200	1500	1750		
Headroom height reduced (CH2100) ⁶⁾	[mm]	3100/2900																	
Shaft depth reduced ⁷⁾	[mm]	900						900											
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590																	
Counterweight (CW) side																			
Car width min.-max.	[mm]	1000-2200				1100-2200				1000-2200				1100-2200					
Car depth min.-max.	[mm]	1250-2100				1400-2200				1250-2100				1400-2200					
Shaft width (calculated for door width)	SW [mm]	1960 (DW900)								2245 (DW1000)								2240 (DW1000)	
Shaft depth-door (S8A) in the shaft	SD [mm]	2440	2620	2440	2620	2440	2620	2440	2620	1740	1920	1740	1920	1740	1920	1740	1920		
Shaft depth-door (S8A) in the recess (20)	SD [mm]	2420	2580	2420	2580	2420	2580	2420	2580	1720	1880	1720	1880	1720	1880	1720	1880		
Shaft depth-door (S8A) in the recess (60)	SD [mm]	2380	2500	2380	2500	2380	2500	2380	2500	1680	1800	1680	1800	1680	1800	1680	1800		
Machine-room-wide min.	MRW [mm]	width																	
Machine-room-deep min.	MRW [mm]	on request																	
Counterweight (CW) rear																			
Car width min.-max.	[mm]	-								1000-2200				-					
Car depth min.-max.	[mm]	-								1250-1600				-					
Shaft width (calculated for door width)	SW [mm]	-				2160 (DW1000)				-				-					
Shaft depth-door (S8A) in the shaft	SD [mm]	-				1970				-				-					
Shaft depth-door (S8A) in the recess (20)	SD [mm]	-				1950				-				-					
Shaft depth-door (S8A) in the recess (60)	SD [mm]	-				1910				-				-					
Machine-room-wide min.	MRW [mm]	width																	
Machine-room-deep min.	MRW [mm]	on request																	

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / - 0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

LEA® Comfort Plus

Two-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load	Q [kg]	1250								1600							
		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5	
Speed	v [m/s]	1,0															
Rope attachment	r	2:1															
Travel height max.	TH [m]	60		80		100		135		60		80		100		135	
Number of passengers		16															
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width ²⁾	CW [mm]	1400 (CW side) / 1750 (CW rear)								1700 (CW side) / 2100 (CW rear)							
Car depth ²⁾	CD [mm]	2000 (CW side) / 1600 (CW rear)								2000 (CW side) / 1600 (CW rear)							
Car height (rough height) ³⁾	CH [mm]	2100-2700															
Door width ⁴⁾⁵⁾	DW [mm]	700-1400															
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500															
Headroom height conventional (CH2100)	[mm]	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950
Shaft depth conventional	SD [mm]	1150	1250	1500	1750	1150	1250	1500	1750	1150	1250	1500	1750	1150	1250	1500	1750
Headroom height reduced (CH2100) ⁶⁾	[mm]	-															
Shaft depth reduced ⁷⁾	[mm]	-															
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590															
Counterweight (CW) side																	
Car width min.-max.	[mm]	1100-2200								-							
Car depth min.-max.	[mm]	1250-2500				1400-2500				1250-2500				1400-2500			
Shaft width (calculated for door width)	SW [mm]	2360 (DW1100)								2415 (DW1100)							
Shaft depth-door (S8A) in the shaft	SD [mm]	2340	2520	2340	2520	2340	2520	2340	2520	2340	2520	2340	2520	2340	2520	2340	2520
Shaft depth-door (S8A) in the recess (20)	SD [mm]	2320	2480	2320	2480	2320	2480	2320	2480	2320	2480	2320	2480	2320	2480	2320	2480
Shaft depth-door (S8A) in the recess (60)	SD [mm]	2280	2400	2280	2400	2280	2400	2280	2400	2280	2400	2280	2400	2280	2400	2280	2400
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															
Counterweight (CW) rear																	
Car width min.-max.	[mm]	1100-2200								-							
Car depth min.-max.	[mm]	1250-1600								-							
Shaft width (calculated for door width)	SW [mm]	2360 (DW1100)	-	2360 (DW1100)	-	-	-	-	-	2560 (DW1100)	-	2560 (DW1100)	-	-	-	-	-
Shaft depth-door (S8A) in the shaft	SD [mm]	2170	-	2170	-	-	-	-	-	2170	-	2170	-	-	-	-	-
Shaft depth-door (S8A) in the recess (20)	SD [mm]	2150	-	2150	-	-	-	-	-	2150	-	2150	-	-	-	-	-
Shaft depth-door (S8A) in the recess (60)	SD [mm]	2110	-	2110	-	-	-	-	-	2110	-	2110	-	-	-	-	-
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / - 0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

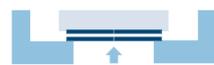
Technical Specifications III

with gearless drive

Technical Specifications III

with gearless drive

Two-panel centre-opening door thyssenkrupp S8A/K8A (M2Z) and Fermator (optional)



Rated load	Q [kg]	2000				2500					
		v [m/s]		r		v [m/s]		r			
Speed	v	1,0		1,6		2,0		1,0		1,6	
Rope attachment	r					2:1					
Travel height max.	TH [m]	60		80		100		60		80	
Number of passengers		26				33					
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		16		20	
Car width ²⁾	CW [mm]	1950				1800					
Car depth ²⁾	CD [mm]	2100				2700					
Car height (rough height) ³⁾	CH [mm]	2100-2700									
Door width ⁴⁾⁵⁾	DW [mm]	700-1400									
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500									
Headroom height conventional (CH2100)	[mm]	3360		3515		3715		3360		3515	
Shaft depth conventional	SD [mm]	1300		1500		1300		1500			
Headroom height reduced (CH2100) ⁶⁾	[mm]										
Shaft depth reduced ⁷⁾	[mm]										
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590									
Counterweight (CW) side											
Car width min.-max.	[mm]	1400-2200									
Car depth min.-max.	[mm]	1250-3050				1500-3050					
Shaft width (calculated for door width)	SW [mm]	2575 (TB1400)				2505 (TB1100)					
Shaft depth-door (S8A) in the shaft	SD [mm]	2440	2620	2440	2620	2440	2620	3040	3220	3040	3220
Shaft depth-door (S8A) in the recess (20)	SD [mm]	2420	2580	2420	2580	2420	2580	3020	3180	3020	3180
Shaft depth-door (S8A) in the recess (60)	SD [mm]	2380	2500	2380	2500	2380	2500	2980	3100	2980	3100
Machine-room-wide min.	MRW [mm]	width									
Machine-room-deep min.	MRW [mm]	on request									
Counterweight (CW) rear											
Car width min.-max.	[mm]										
Car depth min.-max.	[mm]										
Shaft width (calculated for door width)	SW [mm]										
Shaft depth-door (S8A) in the shaft	SD [mm]										
Shaft depth-door (S8A) in the recess (20)	SD [mm]										
Shaft depth-door (S8A) in the recess (60)	SD [mm]										
Machine-room-wide min.	MRW [mm]										
Machine-room-deep min.	MRW [mm]										

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load	Q [kg]	450				630				800			
		v [m/s]		r		v [m/s]		r		v [m/s]		r	
Speed	v	1,0		1,6		1,0		1,6		2,0		2,5	
Rope attachment	r									2:1			
Travel height max.	TH [m]	60		80		60		80		100		135	
Number of passengers		6				8				10			
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		16		20		30		40	
Car width ²⁾	CW [mm]	1000				1100				1350			
Car depth ²⁾	CD [mm]	1250				1400				1400			
Car height (rough height) ³⁾	CH [mm]									2100-2700			
Door width ⁴⁾⁵⁾	DW [mm]	700-1000				700-1200				700-1400			
Door height ⁴⁾⁵⁾	DH [mm]									2000-2500			
Headroom height conventional (CH2100)	[mm]	3300		3500		3300		3500		3715		3950	
Shaft depth conventional	SD [mm]	1100		1200		1100		1200		1500		1750	
Headroom height reduced (CH2100) ⁶⁾	[mm]	3100/2900				-				3100/2900			
Shaft depth reduced ⁷⁾	[mm]	900		-		900		-		900		-	
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]									2590			
Counterweight (CW) side													
Car width min.-max.	[mm]	1000-2200				1100-2200				1000-2200			
Car depth min.-max.	[mm]	1250-2100				1250-1400				1400-2200			
Shaft width (calculated for door width)	SW [mm]	1555 (DW800)				1670 (DW900)				1665 (DW900)			
Shaft depth-door (S8A) in the shaft	SD [mm]	1650	1890	1650	1890	1800	2040	1800	2040	1800	2040	1800	2040
Shaft depth-door (S8A) in the recess (55)	SD [mm]	1595	1780	1595	1780	1745	1930	1745	1930	1745	1930	1745	1930
Shaft depth-door (S8A) in the recess (100)	SD [mm]	1550	1690	1550	1690	1700	1840	1700	1840	1700	1840	1700	1840
Machine-room-wide min.	MRW [mm]	width				width				width			
Machine-room-deep min.	MRW [mm]	on request				on request				on request			
Counterweight (CW) rear													
Car width min.-max.	[mm]	1000-2200				-				1000-2200			
Car depth min.-max.	[mm]	1250-1600				-				1250-1600			
Shaft width (calculated for door width)	SW [mm]	1505	-	1505	-	1510	-	1510	-	-	-	1640	-
Shaft depth-door (S8A) in the shaft	SD [mm]	1880	-	1880	-	2030	-	2030	-	-	-	2030	-
Shaft depth-door (S8A) in the recess (55)	SD [mm]	1825	-	1825	-	1975	-	1975	-	-	-	1975	-
Shaft depth-door (S8A) in the recess (100)	SD [mm]	1780	-	1780	-	1930	-	1930	-	-	-	1930	-
Machine-room-wide min.	MRW [mm]	width				-				width			
Machine-room-deep min.	MRW [mm]	on request				-				on request			

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

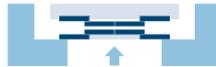
Technical Specifications III

with gearless drive

Technical Specifications III

with gearless drive

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load	Q [kg]	1000 (deep)								1000 (wide)							
		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5	
Speed	v [m/s]	1,0															
Rope attachment	r	2:1															
Travel height max.	TH [m]	60		80		100		135		60		80		100		135	
Number of passengers		13															
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width ²⁾	CW [mm]	1100								1600							
Car depth ²⁾	CD [mm]	2100								1400							
Car height (rough height) ³⁾	CH [mm]	2100-2700															
Door width ⁴⁾⁵⁾	DW [mm]	700-1400															
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500															
Headroom height conventional (CH2100)	[mm]	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950
Shaft depth conventional	SD [mm]	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200	1500	1750	1100	1200	1500	1750
Headroom height reduced (CH2100) ⁶⁾	[mm]	3100/2900															
Shaft depth reduced ⁷⁾	[mm]	900						900									
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590															
Counterweight (CW) side																	
Car width min.-max.	[mm]	1000-2200				1100-2200				1000-2200				1100-2200			
Car depth min.-max.	[mm]	1250-2100				1400-2200				1250-2100				1400-2200			
Shaft width (calculated for door width)	SW [mm]	1670 (DW900)				1665 (DW900)				2110 (DW1100)				2115 (DW1100)			
Shaft depth-door (S8A) in the shaft	SD [mm]	2500	2740	2500	2740	2500	2740	2500	2740	1800	2040	1800	2040	1800	2040	1800	2040
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2445	2630	2445	2630	2445	2630	2445	2630	1745	1930	1745	1930	1745	1930	1745	1930
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2400	2540	2400	2540	2400	2540	2400	2540	1700	1840	1700	1840	1700	1840	1700	1840
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															
Counterweight (CW) rear																	
Car width min.-max.	[mm]	-															
Car depth min.-max.	[mm]	-															
Shaft width (calculated for door width)	SW [mm]	-				1890 (DW1100)				1890 (DW1100)				-			
Shaft depth-door (S8A) in the shaft	SD [mm]	-															
Shaft depth-door (S8A) in the recess (55)	SD [mm]	-															
Shaft depth-door (S8A) in the recess (100)	SD [mm]	-															
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / - 0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

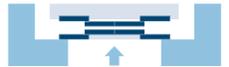
Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load	Q [kg]	1250								1600							
		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5	
Speed	v [m/s]	1,0															
Rope attachment	r	2:1															
Travel height max.	TH [m]	60		80		100		135		60		80		100		135	
Number of passengers		16															
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		40		16		20		30		40	
Car width ²⁾	CW [mm]	1400 (GG seitlich) / 1750 (GG hinten)								1700 (GG seitlich) / 2100 (GG hinten)							
Car depth ²⁾	CD [mm]	2000 (GG seitlich) / 1600 (GG hinten)								2000 (GG seitlich) / 1600 (GG hinten)							
Car height (rough height) ³⁾	CH [mm]	2100-2700															
Door width ⁴⁾⁵⁾	DW [mm]	700-1400															
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500															
Headroom height conventional (CH2100)	[mm]	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950	3300	3500	3715	3950
Shaft depth conventional	SD [mm]	1150	1250	1500	1750	1150	1250	1500	1750	1150	1250	1500	1750	1150	1250	1500	1750
Headroom height reduced (CH2100) ⁶⁾	[mm]	-															
Shaft depth reduced ⁷⁾	[mm]	-															
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590															
Counterweight (CW) side																	
Car width min.-max.	[mm]	1100-2200															
Car depth min.-max.	[mm]	1250-2500				1250-2500				1250-2500				1400-2500			
Shaft width (calculated for door width)	SW [mm]	1980 (DW1100)				1990 (DW1100)				2290 (DW1300)				2295 (DW1300)			
Shaft depth-door (S8A) in the shaft	SD [mm]	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															
Counterweight (CW) rear																	
Car width min.-max.	[mm]	1100-2200				-				1100-2200				-			
Car depth min.-max.	[mm]	1250-1600				-				1250-1600				-			
Shaft width (calculated for door width)	SW [mm]	2060 (DW1100)		-		2060 (DW1100)		-		2410 (DW1300)		-		2410 (DW1300)		-	
Shaft depth-door (S8A) in the shaft	SD [mm]	-															
Shaft depth-door (S8A) in the recess (55)	SD [mm]	-															
Shaft depth-door (S8A) in the recess (100)	SD [mm]	-															
Machine-room-wide min.	MRW [mm]	width															
Machine-room-deep min.	MRW [mm]	on request															

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / - 0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Technical Specifications III

with gearless drive

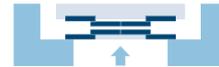
Technical Specifications III

with gearless drive

LEA® Comfort Plus

LEA® Comfort Plus

Four-panel telescopic centre-opening door thyssenkrupp S8A/K8A (M4TZ) and Fermator (optional)



Rated load	Q [kg]	2000				2500					
		no		yes		no		yes			
Speed	v [m/s]	1,0		1,6		2,0		1,0		1,6	
Rope attachment	r					2:1					
Travel height max.	TH [m]	60		80		100		60		80	
Number of passengers		26				33					
Dual entrance		no	yes	no	yes	no	yes	no	yes	no	yes
Max. number of landings		16		20		30		16		20	
Car width ²⁾	CW [mm]	1950				1800					
Car depth ²⁾	CD [mm]	2100				2700					
Car height (rough height) ³⁾	CH [mm]	2100-2700									
Door width ⁴⁾⁵⁾	DW [mm]	700-1400									
Door height ⁴⁾⁵⁾	DH [mm]	2000-2500									
Headroom height conventional (CH2100)	[mm]	3360		3515		3715		3360		3515	
Shaft depth conventional	SD [mm]	1300		1500				1300		1500	
Headroom height reduced (CH2100) ⁶⁾	[mm]					-					
Shaft depth reduced ⁷⁾	[mm]					-					
Floor-to-floor distance min. [DH+590 mm] ⁸⁾	[mm]	2590									
Counterweight (CW) side											
Car width min.-max.	[mm]	1400-2200									
Car depth min.-max.	[mm]	1250-3050				1250-3050					
Shaft width (calculated for door width)	SW [mm]	2575 (DW1400)				2455 (DW1400)					
Shaft depth-door (S8A) in the shaft	SD [mm]	2500	2740	2500	2740	2500	2740	3100	3340	3100	3340
Shaft depth-door (S8A) in the recess (55)	SD [mm]	2445	2630	2445	2630	2445	2630	3045	3230	3045	3230
Shaft depth-door (S8A) in the recess (100)	SD [mm]	2400	2540	2400	2540	2400	2540	3000	3140	3000	3140
Machine-room-wide min.	MRW [mm]	width									
Machine-room-deep min.	MRW [mm]	on request									
Counterweight (CW) rear											
Car width min.-max.	[mm]	-									
Car depth min.-max.	[mm]	-									
Shaft width (calculated for door width)	SW [mm]	-									
Shaft depth-door (S8A) in the shaft	SD [mm]	-									
Shaft depth-door (S8A) in the recess (55)	SD [mm]	-									
Shaft depth-door (S8A) in the recess (100)	SD [mm]	-									
Machine-room-wide min.	MRW [mm]	-									
Machine-room-deep min.	MRW [mm]	-									

In the indicated shaft dimensions, shaft tolerances are taken into account: Each shaft wall must be vertical. Max. Permissible deviation from the vertical ± 25 mm. Deviation from the horizontal in the shaft head / shaft pit and in the machine room + 25 / -0 mm.

2) Preferable dimensions, cabin dimensions can be varied in 1 mm increments.

3) When equipped with uni-color design, CH is ≤ 2400 mm.

4) Observe the availability of the door height (DH) in dependence of the door width (DW).

5) The following information only applies to doors with shaft front wall: model shaft door „40/10“ or „premium“, model car door „Premium PM“.

Type T2 (comparable to M2T): DW = 700-1400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

Type C2 (comparable M2Z): DW = 700-1400 mm; Installation is possible either directly in the shaft or in a deep recess = 85 mm.

Type C2 (comparable to M4TZ): DW = 900-2400 mm; Installation possible directly in the shaft or in deep recess = 120 mm possible.

6) Reduced shaft head height available for Q ≤ 1000 kg.

7) Reduced shaft depth available for Q ≤ 1000 kg.

8) Floor-to-floor distance min. = 200 mm with offset dual entrance.

Electrical data

Rated load (Q)	450 kg			
Drive	Gearless synchronous drive, frequency-controlled (V3F)			
Speed (m/s)	1.0	1.6	2.0	2.5
Drive type	PMC145-2 M	PMC145-2 M	-	-
Weight of the drive (kg)	172	189	-	-
Control system	MFR 5,5 / MFC 31-15	MFR 5,5 / MFR 7,5 / MFC 31-26	-	-
Max. number of trips per hour ¹⁾	180 s/h			

Rated load (Q)	630 kg			
Drive	Gearless synchronous drive, frequency-controlled (V3F)			
Speed (m/s)	1.0	1.6	2.0	2.5
Drive type	PMC145-2 M	PMC145-2 M	DAF210 L	DAF270 M
Weight of the drive (kg)	172	172	320	570
Control system	MFR 7,5 / MFC 31-26	MFR 7,5 / MFC 31-26	MFR 7,5 / MFR 18 / MFC 31-26	MFR 18 / MFC 31-40
Max. number of trips per hour ¹⁾	180 s/h			

Rated load (Q)	800 kg			
Drive	Gearless synchronous drive, frequency-controlled (V3F)			
Speed (m/s)	1.0	1.6	2.0	2.5
Drive type	PMC145-2 L	PMC145-2 XL	DAF210 L	DAF270 M
Weight of the drive (kg)	216	229	320	570
Control system	MFR 7,5 / MFC 31-26	MFR 18 / MFC 31-26	MFR 18 / MFC 31-26	MFR 18 / MFC 31-40
Max. number of trips per hour ¹⁾	180 s/h			

Rated load (Q)	1000 kg			
Drive	Gearless synchronous drive, frequency-controlled (V3F)			
Speed (m/s)	1.0	1.6	2.0	2.5
Drive type	PMC145-2 L	PMC145-2 XL	DAF210 L	DAF270 M
Weight of the drive (kg)	216	229	320	570
Control system	MFR 7,5 / MFC 31-26	MFR 18 / MFC 31-26	MFR 18 / MFC 31-40	MFR 18 / MFC 21-40 / MFC 31-60
Max. number of trips per hour ¹⁾	180 s/h			

Rated load (Q)	1250 kg			
Drive	Gearless synchronous drive, frequency-controlled (V3F)			
Speed (m/s)	1.0	1.6	2.0	2.5
Drive type	PMC170 M	PMC170 L	DAF270 M	DAF270 M
Weight of the drive (kg)	408	432	570	570
Control system	MFR 18 / MFC 31-26	MFR 18 / MFC 31-40	MFR 18 / MFC 31-40	MFC 21-50 / MFC 31-60
Max. number of trips per hour ¹⁾	180 s/h			

Rated load (Q)	1600 kg		1600 kg	1600 kg
Drive	Gearless synchronous drive, frequency-controlled (V3F)			
Speed (m/s)	1.0	1.6	2.0	2.5
Drive type	PMC170 M	PMC170 L	DAF270 M	DAF270 M / DAF270 L
Weight of the drive (kg)	408	432	570	570 / 730
Control system	MFR 18 / MFC 31-40	MFR 18 / MFC 31-40	MFR 18 / MFC 31-60	MFC 21-50 / MFC 31-60
Max. number of trips per hour ¹⁾	180 s/h			

Rated load (Q)	1250 kg		
Drive	Gearless synchronous drive, frequency-controlled (V3F)		
Speed (m/s)	1.0	1.6	2.0
Drive type	DAF270 M/L	DAF270 L	DAF270 L
Weight of the drive (kg)	570 / 730	730	730
Control system	MFR 18 / MFC 31-40	MFR 18 / MFC 31-40	MFR 18 / MFC 31-40
Max. number of trips per hour ¹⁾	180 s/h		

Rated load (Q)	1600 kg	
Drive	Gearless synchronous drive, frequency-controlled (V3F)	
Speed (m/s)	1.0	1.6
Drive type	DAF270 L	DAF270 L
Weight of the drive (kg)	730	730
Control system	MFR 18 / MFC 31-60	MFR 18 / MFC 31-60
Max. number of trips per hour ¹⁾	180 s/h	

¹⁾ Higher number of trips per hour possible on request.

Technical Specifications III

with gearless drive

Car Design: Uni-Colour

Occurring forces

Rated Load Q	[kg]	450				630				800													
Mass of car max. Pmax	[kg]	900				1260				1600													
Speed v	[m/s]	1,0		1,6		1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5			
Loading case ¹⁾		N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S		
P1 Machine frame (machine room)	[kN]	10	27	10	33	14	37	14	46	14	50	14	58	18	50	18	62	18	66	18	76	18	76
P2 Machine frame (machine room)	[kN]	4	11	4	14	6	15	6	18	6	20	6	25	7	20	7	26	7	27	7	32	7	32
P3/P4 Machine frame (machine room)	[kN]	5	13	5	16	7	18	7	21	7	23	7	28	9	23	9	30	9	32	9	36	9	36
P5 Rope fixing point (machine room)	[kN]	7	20	7	25	10	28	10	34	10	37	10	41	14	40	14	42	14	50	14	55	14	55
P7 Guide rails car (pit) ²⁾	[kN]	24		27		29		32		76		96		34		37		81		101			
P8 Buffer car (pit) ³⁾	[kN]	27				38				48													
P9 Buffer counterweight (pit) ³⁾	[kN]	45				62				79													
P10 Guide rails counterweight (pit.)	[kN]	11	22	11	25	11	26	11	29	11	73	11	93	11	30	11	34	11	77	11	97	11	97
O1 Load eye for scaffoldless installation (shaft ceiling)	[kN]	37				25				37				25									
O2 Load eye for doors (shaft ceiling)	[kN]	10				5				10				5									
O3 Load eye for drive (machine room ceiling)	[kN]	10				10				10				10									

Rated Load Q	[kg]	1000				1250											
Mass of car max. Pmax	[kg]	2000				2200											
Speed v	[m/s]	1,0		1,6		2,0		2,5		1,0		1,6		2,0		2,5	
Loading case ¹⁾		N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
P1 Machine frame (machine room)	[kN]	21	57	21	71	21	79	21	87	23	65	23	80	27	101	25	104
P2 Machine frame (machine room)	[kN]	8	22	8	28	9	31	9	34	9	25	9	32	11	39	10	40
P3/P4 Machine frame (machine room)	[kN]	10	26	10	32	10	36	10	40	11	30	11	37	12	45	11	47
P5 Rope fixing point (machine room)	[kN]	16	43	16	54	16	58	13	65	18	50	18	63	20	75	18	79
P7 Guide rails car (pit) ²⁾	[kN]	66		77		88		108		80		95		114		138	
P8 Buffer car (pit) ³⁾	[kN]	59				75				95				87			
P9 Buffer counterweight (pit) ³⁾	[kN]	99				118				157				142			
P10 Guide rails counterweight (pit.)	[kN]	11	35	14	38	17	84	23	103	11	37	14	41	17	91	23	108
O1 Load eye for scaffoldless installation (shaft ceiling)	[kN]	37				25				38				25			
O2 Load eye for doors (shaft ceiling)	[kN]	10				5				10				10			
O3 Load eye for drive (machine room ceiling)	[kN]	10				10				10				10			

Rated Load Q	[kg]	1600				2000				2500																			
Mass of car max. Pmax	[kg]	2200				3200				2800				2600				3280				3800				3300			
Speed v	[m/s]	1,0		1,6		2,0		2,5		1,0		1,6		2,0		1,0		1,6		2,0		1,0		1,6					
Loading case ¹⁾		N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S				
P1 Machine frame (machine room)	[kN]	25	69	25	88	33	124	29	122	30	83	30	104	25	132	41	113	37	129										
P2 Machine frame (machine room)	[kN]	10	27	10	35	13	48	11	46	12	33	12	41	14	50	16	43	14	49										
P3/P4 Machine frame (machine room)	[kN]	12	32	12	42	15	55	13	54	14	40	14	49	16	60	19	51	17	60										
P5 Rope fixing point (machine room)	[kN]	20	54	20	68	25	93	23	94	24	66	24	82	27	102	32	89	30	103										
P7 Guide rails car (pit) ²⁾	[kN]	95		113		140		168		103		121		145		120		133											
P8 Buffer car (pit) ³⁾	[kN]	75				95				87				91				104				124				114			
P9 Buffer counterweight (pit) ³⁾	[kN]	118				157				142				142				168				199				179			
P10 Guide rails counterweight (pit.)	[kN]	11	40	14	43	17	98	23	114	11	72	14	83	17	101	11	51	14	93										
O1 Load eye for scaffoldless installation (shaft ceiling)	[kN]	38				25				25				5				5											
O2 Load eye for doors (shaft ceiling)	[kN]	5				10				5				5				5											
O3 Load eye for drive (machine room ceiling)	[kN]	10				10				10				10				10											

1) Load case "N": normal operation, dynamic load; Load case "S": exceptional load, For example, when the catch device is activated or during the travel of the buffer. 2) per guide rail.

3) Total load evenly distributed on all buffers.

The listed values for P7 - P10 are guideline values since the forces are also dependent on the type, speed, delivery height, etc. The forces P8, P9 under the buffers and the forces P7, P10 due to triggered catch devices under the rails do not act simultaneously. The exact force data are shown in the annex drawing

Design

- Design lines, developed in collaboration with a renowned interior architect and designer
- Uni-Colour design – horizontal separation of the wall surfaces at the height of the handrail offers modern design options
- Modern and contemporary colours and designs, coordinated with the trends in interior architecture and the possibility for strong contrasts
- Classic design line with vertical wall panels and broad range of materials also available

Flexibility

- Impressive selection of high-quality materials and attractive colours

Innovation

- Sophisticated, hidden fastening technology of the design wall fields for the Uni-Colour design lines; one-man installation possible

Comfort

- Design lines convey a relaxing atmosphere, even in small elevator cars

Economic Efficiency

- Uni-Colour wall surfaces may be installed after the construction phase
- Uni-Colour wall surfaces can easily be replaced, e.g., if changing or refreshing the appearance

STYLE



STYLE SELECTION
Edelstahl Korn 220



STYLE SELECTION
White Skin



STYLE SELECTION
Green Apple

Car Design: Uni-Colour and VERTICAL Design

Car Design: STYLE (Uni-Colour)

LEA® Comfort Plus

CHIC



CHIC SELECTION
Dark Ink

ELEGANT



ELEGANT SELECTION
Gold

VERTICAL



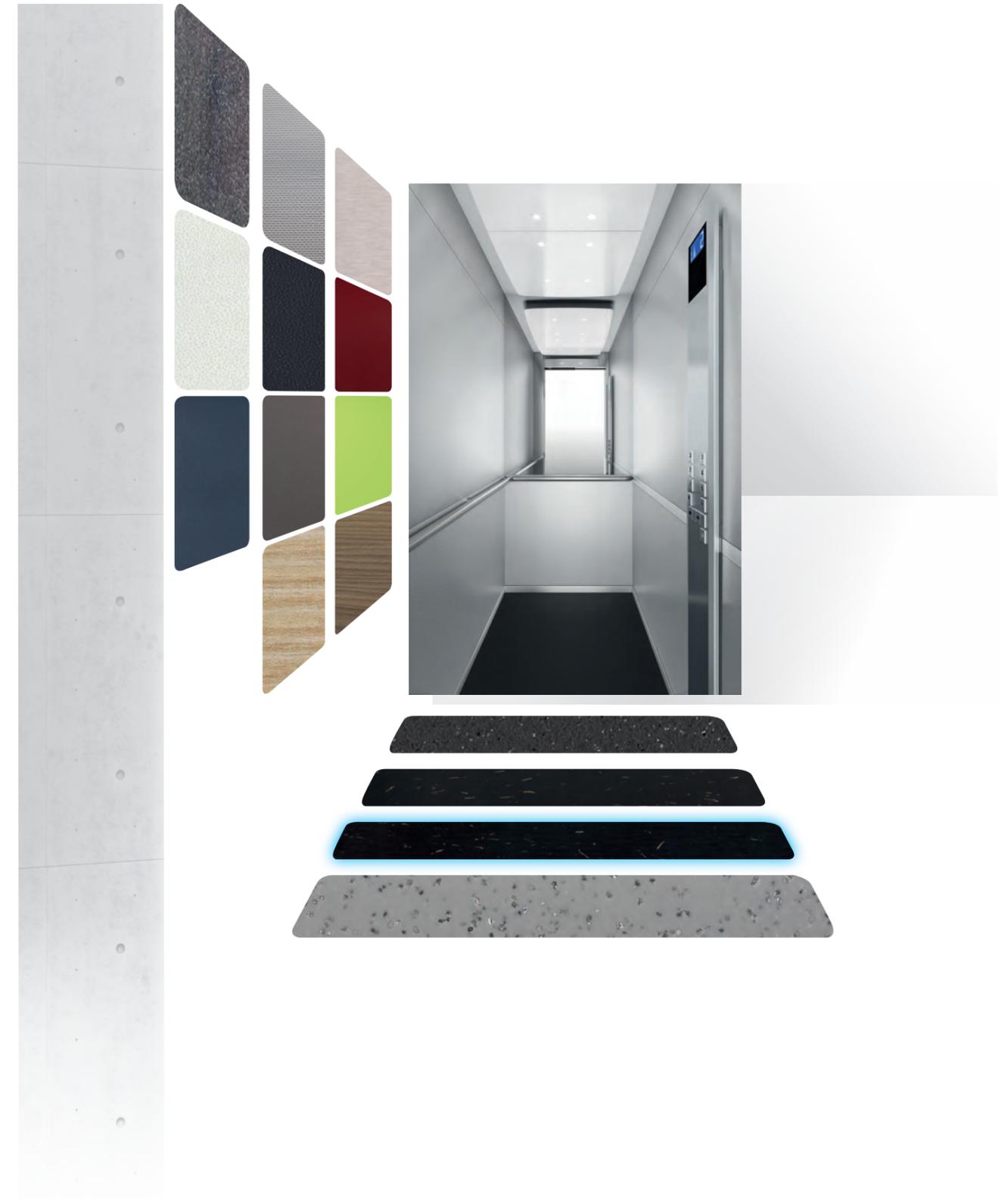
VERTICAL SELECTION
Stainless Steel



VERTICAL SELECTION
Traffic White RAL 9016



VERTICAL SELECTION
Krupp Stainless Steel
Design „Linen“



LEA® Comfort Plus

Car Design: STYLE (Uni-Colour)

Car Design: STYLE (Uni-Colour)

Hand rail



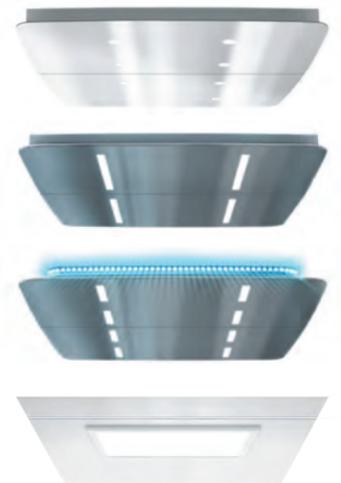
Structure

- 1. Car ceiling**
 - Powder-coated, Traffic White, RAL 9016.
- 2. False ceiling**
 - Delivery in 2 to 3 segments depending on the car dimensions.
 - Cover plate made of hairline stainless steel grit 220, type 304.
- 3. Top car Panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 4. Decorative strip**
 - Aluminium (brushed and polished surface design) grit 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of hairline stainless steel grit 220, type 304.
 - Diameter always 40 mm.
 - Version with straight ends or bonded mounting (adapted to the needs of disabled people according to EN81-70) or round surrounding with corner mounting as well as on the decorative strip with rounded mounting.
 - Available for 1/2/3 side walls.
- 6. Bottom car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 7. Skirting**
 - Anodised aluminium with stainless steel appearance, grain 220, height 50 mm.
 - Aluminium, panelled with hairline stainless steel grit 220, type 304, height 50 mm.
- 8. Flooring material**
 - Thickness between 2 and 40 mm.

Mirror



False ceiling

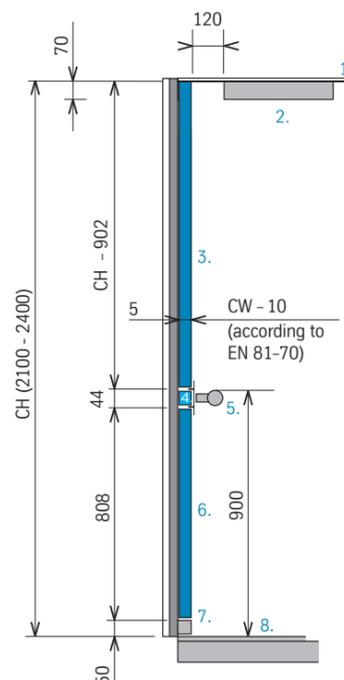


Mirror



Half mirror rear wall or side wall opposite car operation panel BTHM ○

Skirting



Note: The interior car design is described in detail on page 28.
For accessories with Uni-Colour design: CH ≤ 2400 mm.
* without false ceiling

Subject to technical changes that might have an impact on the design (look, feel).

Subject to technical changes that might have an impact on the design (look, feel).

○ Optional

Colours/materials¹⁾

Available colours – as top and bottom car panel

WTSE Leather/Stainless Steel WBSE	WTSL Linen/Stainless Steel WBSL	WTSH Hairline/Stainless Steel WBSH
WTPW White Skin WBPW	WTPS Dark Skin WBPS	WTCS Smoke WBCS
WTLR Red Ming WBLR	WTLD Dark Ink WBLD	WTLI Iron WBLI
WTLA Green Apple WBLA	Toronto	Canberra

¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

False ceilings



²⁾Available up to rated load Q ≤ 1600 kg.

Flooring materials¹⁾

FPDG Dove Grey/Vinyl	FRKG Kayar Grey/Rubber
FNES Black Stone/Rubber	FRKB Kayar Black/Rubber

¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

Hand-rail



Skirting



2 versions:
- Anodised aluminium with stainless steel appearance, grain 220 (50 x 5 mm)
- Cladded with stainless steel grain 220 (50 x 5 mm)

Bumper rails

Stainless steel (100 x 10 mm)	Bumper rail [in mm] height	Car operating panel integrated	Car operating panel surface mounted
	1-row	550	450
	2-rows	550, 800	450, 650
	3-rows	300, 550, 800	250, 450, 650

Car Design: CHIC (Uni-Colour)

Car Design: CHIC (Uni-Colour)



Hand rail



Structure

- 1. Car ceiling**
 - Powder-coated, Traffic White, RAL 9016.
- 2. False ceiling**
 - Delivery in 2 to 3 segments depending on the car dimensions.
 - Cover plate made of hairline stainless steel grit 220, type 304.
- 3. Top car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 4. Decorative strip**
 - Aluminium (brushed and polished surface design) grit 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of hairline stainless steel grit 220, type 304.
 - Diameter always 40 mm.
 - Version with straight ends or bonded mounting (adapted to the needs of disabled people according to EN81-70) or round surrounding with corner mounting as well as on the decorative strip with rounded mounting.
 - Available for 1/2/3 side walls.
- 6. Bottom car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 7. Skirting**
 - Hairline stainless steel grit 220, type 304, height 50 mm.
 - With indirect LED lighting (white LED or RGB LED lighting).
 - RGB LED lighting for car false ceiling and skirting.
 - Anodised aluminium with stainless steel appearance, grain 220, height 50 mm.
- 8. Flooring material**
 - Thickness between 2 and 40 mm.

Mirror

(half)



(total height)



(total height)

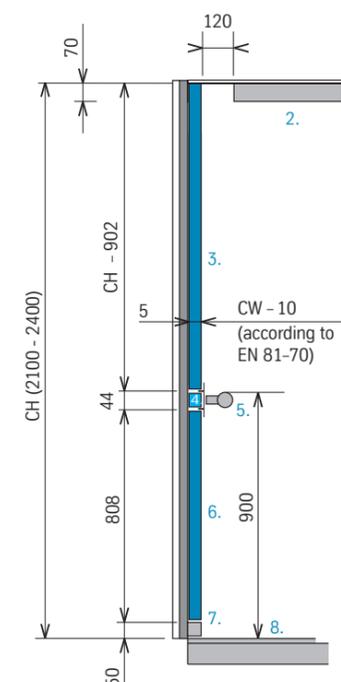


** available for CW ≤ 1600 mm

False ceiling



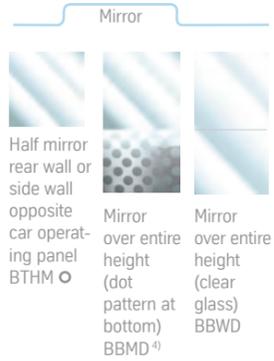
Skirting



Note: The interior car design is described in detail on page 28.
 For accessories with Uni-Colour design: CH ≤ 2400 mm.
 * without false ceiling
 Subject to technical changes that might have an impact on the design (look, feel).

Car Design: CHIC (Uni-Colour)

Car Design: ELEGANT (Uni-Colour)



Colours/materials¹⁾
Available colours – as top and bottom car panel

WTSL WBSL Linen/Stainless Steel	WTSH WBSH Hairline/Stainless Steel	WTLR WBLR Red Ming
WTLD WBLD Dark Ink	WTLI WBLI Iron	WTLA WBLA Green Apple
Toronto	Canberra	

¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

³⁾ Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.
⁴⁾ Available for CW ≤ 1600 mm.

False ceilings

Brilliant LED CBLN	Grandiose LED CGLW	SlimLED PANEL ³⁾ 620 x 620 mm Lighting directly on the car ceiling
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Flooring materials¹⁾

FPDG Dove Grey/Vinyl	FRKG Kayar Grey/Rubber
FNES Black Stone/Rubber	FRKB Kayar Black/Rubber

¹⁾The depicted coloured surfaces are similar and may differ from the actual design.

Hand-rail			Skirting
Stainless steel Bended (40 mm)	Stainless steel Straight (40 mm)	Stainless steel Round surrounding (40 mm)	SBLR Hairline stainless steel grit 220, type 304 (50 mm)

Bumper rails

	Height of bumper rail [in mm]	Car operating panel integrated	Car operating panel surface mounted
Stainless steel (100 x 10 mm)	1-row	550	450
	2-rows	550, 800	450, 650
	3-rows	300, 550, 800	250, 450, 650

Anodised aluminium with stainless steel appearance, grain 220 (50 x 5 mm)

Subject to technical changes that might have an impact on the design (look, feel).
 ○ Optional



Car Design: ELEGANT (Uni-Colour)

Car Design: ELEGANT (Uni-Colour)

Hand rail



Structure

- 1. Car ceiling**
 - Powder-coated, Traffic White, RAL 9016.
- 2. False ceiling**
 - Delivery in 2 to 3 segments depending on the car dimensions.
 - Cover plate made of hairline stainless steel grit 220, type 304.
- 3. Top car panel**
 - Thickness approx. 5 mm (depends on the surface materials).
- 4. Decorative strip**
 - Aluminium (brushed and polished surface design) grit 220.
 - Integrated between top and bottom car panels.
- 5. Handrail**
 - Made of hairline stainless steel grit 220, type 304.
 - Diameter always 40 mm.
 - Version with straight ends or bonded mounting (adapted to the needs of disabled people according to EN81-70) or round surrounding with corner mounting as well as on the decorative strip with rounded mounting.
 - Available for 1/2/3 side walls.

6. Bottom car panel

- Thickness approx. 5 mm (depends on the surface materials).

7. Skirting

- Hairline stainless steel grit 220, type 304, height 50 mm.
- With indirect LED lighting (white LED or RGB LED lighting).
- RGB LED lighting for car false ceiling and skirting.
- Anodised aluminium with stainless steel appearance, grain 220, height 50 mm.

8. Flooring material

- Thickness between 2 and 40 mm.

Mirror

(half)



(total height)



(total height)

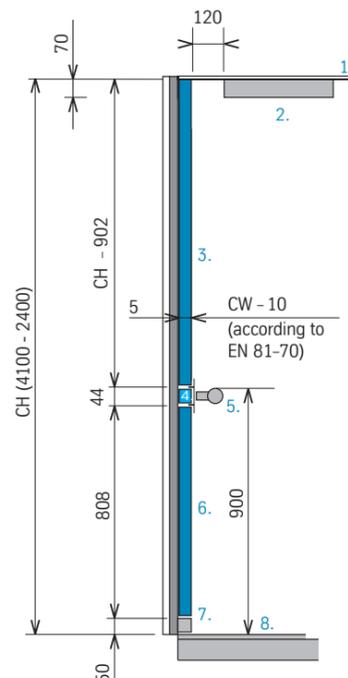


** available for CW ≤ 1600 mm

False ceiling



Skirting

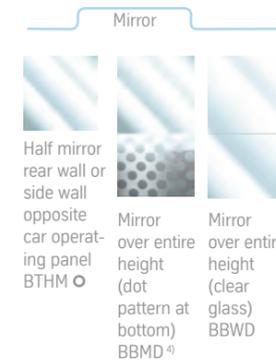


Note: The interior car design is described in detail on page 28.

For accessories with Uni-Colour design: CH ≤ 2400 mm.

* without false ceiling

Subject to technical changes that might have an impact on the design (look, feel).



³⁾ Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.

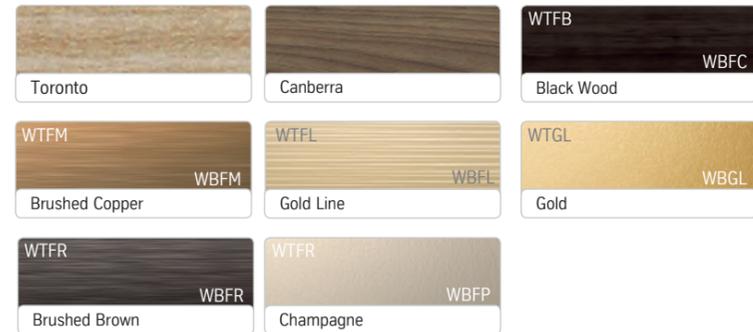
⁴⁾ Available for CW ≤ 1600 mm.

Subject to technical changes that might have an impact on the design (look, feel).

○ Optional

Colours/materials ¹⁾

Available colours – as top and bottom car panel

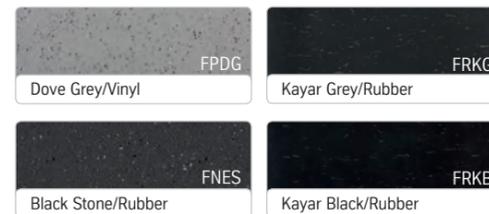


¹⁾ The depicted coloured surfaces are similar and may differ from the actual design.

False ceilings



Flooring materials ¹⁾



¹⁾ The depicted coloured surfaces are similar and may differ from the actual design.

Hand-rail



Skirting



Bumper rails

Height of bumper rail [in mm]	Car operating panel integrated	Car operating panel surface mounted
1-row	550	450
2-rows	550, 800	450, 650
3-rows	300, 550, 800	250, 450, 650

Stainless steel (100 x 10 mm)



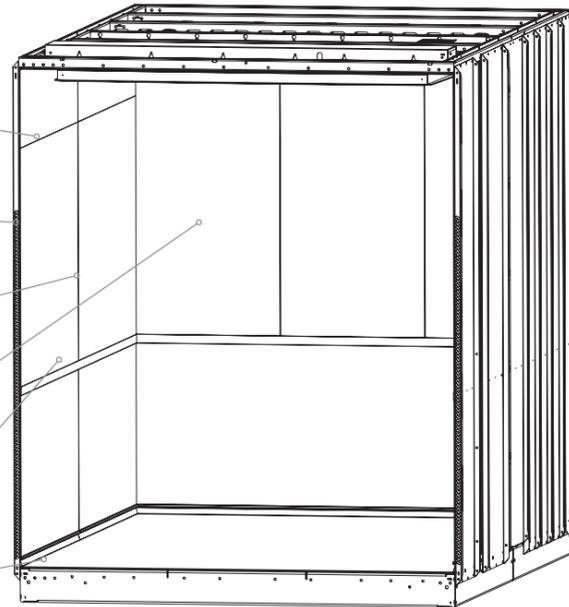
Interior Car Design: Uni-Colour

Car Design: VERTICAL

LEA® Comfort Plus

Structure of elevator car interior panelling (Uni-Colour design)

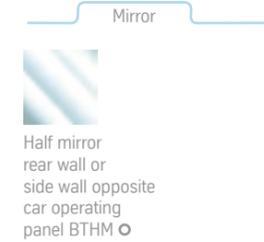
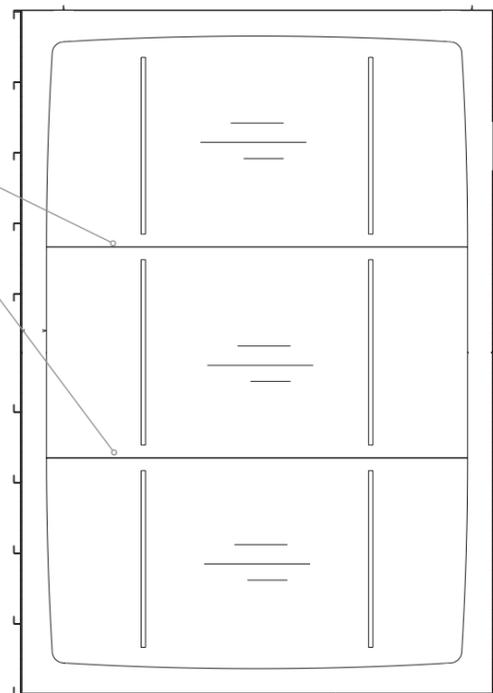
- Horizontal decorative joint at 2100 mm from upper edge of finished floor.
- Between car ventilation (not visible) and elevator car portal – 5 mm gap.
- Vertical partition with CD > 2,500 mm central joint 3.0 mm (top and bottom car panel).
- Back wall mirror with CW > 1600 mm, 3-part. Mirror with dot pattern available for CW ≤ 1600 mm.
- Side wall mirror from CD > 1400 mm 2-part (only up to CH = 2300 mm and CD = 2400 mm).
- Skirting with CD > 3000 mm. Partition central.



For accessories with Uni-Colour design: CH ≤ 2400 mm.

Ceiling design:

- False ceiling 3-part with ceiling areas > 2.5 m² and two visual joints (with 2-piece false ceiling, joint centrally positioned).
- In the case of deep car layouts, the grinding direction for stainless steel false ceilings runs laterally. In the case of wide car layouts, the arrangement of the false ceiling and, thus, the stainless steel grinding direction is offset by 90 degrees.
- Star Spot LED false ceiling available up to maximum rated load Q = 1600 kg.
- The SlimLED PANEL lighting is mounted directly on the elevator car rough ceiling. A false ceiling is not available.



Colours/materials

1. Galvanised	2. Ocean blue (RAL 5020)	3. Sand yellow (RAL 1002)	4. Traffic White (RAL 9016)	5. White Aluminium (RAL 9006)	6. Hairline stainless steel grit 220, type 304	7. Krupp Stainless Steel Design "Linen"	8. Krupp Stainless Steel Design "Diamond"	9. Krupp Stainless Steel Design "Leather"
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False ceilings

SpotsLED ²⁾	Cassette ceiling ^{1) 2)}	SlimLED PANEL ³⁾ 620 x 620 mm Lighting directly on the car ceiling	Sample representation of elevator car
Indirect lighting ²⁾			

¹⁾ No emergency trap door possible.
²⁾ Subject to technical changes that might have an impact on the design (look).

Flooring materials

FRIC Ice/Rubber	FPDG Dove Grey/Vinyl	FRKG Kayar Grey/Rubber	FRKB Kayar Black/Rubber
FNES Black Stone/Rubber	FOEO Dark Brushed Oak/PVC	Bulb plate V2A (4 mm), aluminium (AE) (3 mm) or steel (6 mm; Mouse Grey / RAL 7005, powder coated)	

Car floor lowered 3.5 mm. Flooring by the customer
Car floor lowered 25 mm. Flooring by the customer
Car floor lowered 40 mm. Flooring by the customer

Hand-rail

Stainless steel Bended (40 mm)	Stainless steel Straight (40 mm)	Stainless steel Round surrounding (40 mm)
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Skirting

2 versions:
- Anodised aluminium with stainless steel appearance, grain 220 (50 x 5 mm)
- Cladded with stainless steel grain 220 (50 x 5 mm)

Height of bumper rail [in mm]

1-row	550
2-rows	550, 800
3-rows	300, 550, 800

Subject to technical changes that might have an impact on the design (look, feel).

◯ Optional

Bumper rails

Beech (200 x 19 mm)	Stainless Steel (100 x 10 mm)	Stainless Steel round (40 mm)
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Folding seat

Seat, plastic-coated black (308 mm x 440 mm)

³⁾ Depending on Q and car dimension additional car ventilation slots are required in the upper part of the elevator car walls.

LEA® Comfort Plus

Glass Elevator Car Design: VERTICAL

Main components

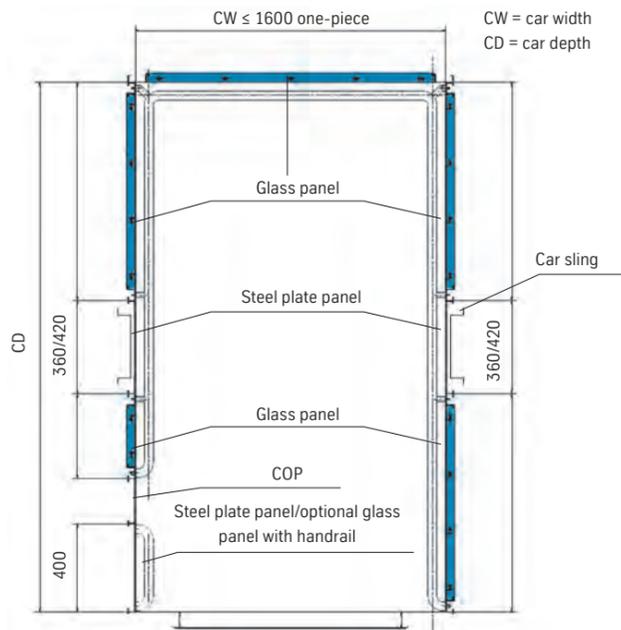
LEA® Comfort Plus

The LEA® Comfort Plus is also available with our attractive and modern glass elevator cars.

The layout of our glass elevator cars is as follows:

- The car back wall as well as the side walls of the glass elevator car are designed on the basis of standardised glass wall panels, framed with hairline stainless steel grit 220, type 304.
- The frame profile widths of each glass panel, including the glass retaining strips, are 55 mm and 65 mm at the side (depending on handrail), min. 60 mm at the bottom and min. 35 mm at the top.
- Steel plate panels in design hairline stainless steel grit 220, type 304, are fitted between the elevator car portal and the car operating panel as well as in the central car area.
- For cars wider than 1600 mm, the glass rear wall is split. The glass wall panels of the elevator car consist of a solid metal frame in which laminated glass is installed.
- The laminated glass is fixed in place by clipped aluminium glass retaining strips in such a way that the glass panels can be replaced easily from the inside of the elevator car.
- Protruding, nicely rounded handrails with corner mounting additionally underline the high-quality appearance of our glass elevator cars.

Sample glass elevator car configuration



Glass elevator car also possible in mirrored version and with dual entrance. Version adapted to the needs of disabled people according to EN 81-70 available as option.

In the same way as all other elevator cars in our product ranges, our glass elevator cars comply with all standards and regulations. Glass panels and glass doors made of laminated glass and user-friendly access systems ensure the corresponding safety.

To a high degree, our modern glass elevator cars support the aesthetic appearance of modern building architecture. Tailored solutions for your project - for the unique elevator with the freedom of transparency.



Geared machines



Geared machines TW45C / TW63B

The range of machines from LiftEquip has an excellent reputation and covers a finely graduated performance range.

- Gears TW45C resp. TW63B
- Single-stage worm gear
- Type-approved protective device (optionally with emergency brake system NBS) and thus EN 81-20 compliant
- Flexible erection thanks to horizontal or vertical motor position
- VVVF motors, type B5, with flexible clutch

- Number of travel per hour 180 s/h
- Use of synthetic oil for long oil change intervals
- Wide range of traction sheave diameters, positioned on the left or right
- Low-wear traction sheave thanks to hardened traction sheave grooves
- NBS optional

Gearless machines



Gearless PMC145-2/170 resp. DAF210/270

The synchronous gearless PMC145-2 / 170 resp. DAF210 / DAF270 are one of the most compact machines and are perfectly suited for deployment in the LEA® Comfort Plus with machine room.

- High efficiency
- Low noise as there is no forced ventilation and very smooth running
- Safe and comfortable electromagnetic brake release
- Anti-friction bearings with life-time lubrication
- Number of travel per hour up to 240 s/h

- Ideally suited for energy recovery
- Brake system against overspeed in accordance with EN 81-20 /5.6.6 and against unintended movement of the elevator car in accordance with EN 81-20 /5.6.7
- UCM verification using the safety brake of the machine and considering the switching times of the control system
- Rope guard in accordance with EN 81-77 up to earthquake category 3

Frequency inverter



MFC 20/21 and MFC 30/31 inverters

The vector-controlled frequency inverters from LiftEquip are matched to the geared (asynchronous) and gearless (synchronous) machines.

- Inverter with brake activation, power filter and power choke
- With travel contactor (MFC 30/31)
- Brake resistor in a separate housing
- Motor parameters stored
- Rapid commissioning via Plug&Play
- Emergency power mode possible in the event of a power failure via UPS (uninterruptible power supply)
- Integrated speed monitoring (for MFC 30/31) in conjunction with suitable control system
- Parallel interface and DCP03

MFR Inverter (optional)

The MFC-R and MFR frequency inverters with power regeneration capability have the optimum technologies for an energy-efficient elevator. In addition to the attributes of MFC 21 / 31 units:

- Inverter with electronic brake activation, power filter, power choke and electronic travel contactors
- Integrated power regeneration, which means no brake resistor is required
- Possibility for activation of a standby and sleep mode to improve energy efficiency
- Possibility for remote parameterisation via DCP03/04, CANopen and parallel interface (optional)

LEA® Comfort Plus

Main components

Scope of Supply and Planning Information

Doors



Landing door S8A, 2-panel, centre-opening (M2Z) with elegant design in stainless steel.

Shaft door S8A / Car door K8A

The thyssenkrupp S8A/K8A door series is characterised by elegance, durability and an extensive range of options.

- 2-panel, side-opening telescopic sliding door (M2T)
- 2-panel, centre-opening sliding door (M2Z)
- 4-panel, centre-opening telescopic sliding door (M4TZ)
- Elegant and convenient door, ideally suitable for use in prestigious surroundings
- Panelling in numerous surface designs, glass door panels, aluminium and stainless-steel door sills and surround-

ing invisible sill guides enable individual adaptation to the design requirements in the building

- High-quality door safety lock systems and short door reversal times
- Safe and robust mechanical construction with powerful door drive
- Long service life as a result of the exclusive deployment of proven and tested materials and components
- Ensuring a rapid and long-lasting spare parts availability
- In case of shaft front wall Fermator doors are used: landing door "40/10" respectively "Premium", car door "Premium PM"

LEA® Comfort Plus scope of supply

Machine

- Gear (TW45C / TW63B) with motor respectively gearless drive (PMC145-2 / PMC170 resp. DAF210 / DAF270)
- Traction sheave with rope guard cover
- Motor cable (optional)
- Encoder (BISS-C, NDAT, etc.) with cables (5 m or 10 m)
- Machine base frame with insulated elements to prevent transmission of structure-borne noise (rubber blocks)

Frequency inverter

- MFC 20/30 (for geared) or MFC 21/31 (for gearless), without power regeneration, with power resistor
- brake activation (optional)
- MFR inverter (optional) with power regeneration (for gearless only)

Elevator car

- Car in steel plate design, with standardized and/or individual dimensions (in steps of 1 mm)
- Car type P4000/P1000 with car guard rail
- Car sling
- Plastic diverter pulleys (Ø 320, Ø 400) at the top, with isolation (optional)
- Suspension 2:1
- Vibration isolation with steel springs (bottom) and rubber elements (top)
- Ventilation via vents in the door recess

Counterweight

- Steel plate frame
- Diverter pulleys for suspension 2:1
- Weight inserts: steel, concrete and Gussolith in variable proportions
- With safety gear (optional)
- Pit screen according to EN 81-20/50

Guides on elevator car / counterweight

- Moving plastic sliding guides with lubricating units
- Optional roller guides

Guide rails

- Steel rails (T-section) for car and counterweight with butt straps and mounting parts

Rope system

- Steel ropes Ø 10.0 mm, 1570 N/mm², Ø 8.0 mm, 1570 N/mm² or Ø 6.0 mm, 1770 N/mm²
- Rope anchor points for machine-room, suspensions insulated with rubber / steel springs
- Compensation chain depending on the design

Shaft equipment

- Two-part sliding shackles made of galvanised steel plate with mounting parts

Painting / priming

- Steel parts mainly with powder coating (similar to RAL 7005) or priming (RAL 7031 and/or RAL 7005), layer thickness approx. 60 µm; galvanised parts remain galvanised

Landing door (S8A) / car door (K8A)

- Door panels and door architraves made of electrogalvanized sheet metal
- Shaft door panels single-leaf made in noise-inhibiting sandwich design
- Door panels at top with large rollers and counter-rollers, adjustable sliders
- Different door types for installation in the shaft or recess
- Different designs: colours in RAL or stainless steel
- Different sill designs: steel or stainless steel
- Optionally concealed sill guide
- Frequency-controlled drive with toothed belt drive with automatic learning function
- Door drive with closing force limiter
- High resolution light curtain
- In case of shaft front wall Fermator doors are used: landing door "40/10" respectively "Premium", car door "Premium PM"

Progressive safety gear

- Progressive safety gear for downwards direction, integrated in the car sling
- Protection in upward direction: emergency brake system, optional, (geared) or monitored service brake in acc. with EN 81-20 /5.6.6 (gearless)

Speed governor

- Ø 200 mm or Ø 300 mm, positioned in the machine-room (type 6023F or 6023)
- Governor rope Ø 6.5 mm
- Tensioner device for shaft pit

Buffer

- Polyurethane buffer (v ≤ 1.0 m/s) and/or oil buffer for car and counterweight with pit elements for installation in the shaft pit

Not included in the scope of supply are:

- Control system with control cabinet and measures for rescue of passengers
- Operating and indicator elements
- External control panels
- Mounted resp. built-in control panel in the elevator car
- Emergency call system
- Car distribution box
- Travelling cable
- Shaft selector
- Shaft wiring and shaft lighting
- Inspection control and emergency stop switch
- Integration of the inverter
- Connection of the car lighting and the overload sensor
- Load measurement system (occupied, full load, overload)
- Electrical installations in the machine room
- emergency light

All of the above components must be provided by the installation firm and/or a control system supplier.

Legal information

Before the commencement of operation, the installation firm must have the elevator system per inspected / approved in an individual inspection with danger analysis. During the planning phase, please consider all applicable regulations stipulated by the relevant notified body and all applicable national regulations.

Options

Options

Technical data	STYLE	CHIC	ELEGANT	VERTICAL
Rated load				
450 kg – 1600 kg	●	●	●	●
450 kg – 1600 kg (dual entrance)	○	○	○	○
Speed				
v = 1.0 m/s (Q = 450 kg - 1600 kg)	●	●	●	●
v = 1.6 m/s (Q = 450 kg - 1600 kg, only with gearless drive)	●	●	●	●
v = 2.0 m/s (Q = 630 kg - 1600 kg, only with gearless drive)	●	●	●	●
v = 2.5 m/s (Q = 630 kg - 1600 kg, only with gearless drive)	●	●	●	●
Max. travel height 100 m (only with gearless drive)	●	●	●	●
Max. number of landings 40 (only with gearless drive)	●	●	●	●
Car height 2100 – 2700 mm (basic size) (for accessories with Uni-Colour design: CH ≤ 2400 mm)	●	●	●	●
Flexible car dimensions in 1 mm steps	○	○	○	○
Door version				
Dual panel, side-opening telescopic sliding door (M2T, comparable T2)	●	●	●	●
Dual panel, centre-opening door (M2Z, comparable C2)	○	○	○	○
Quadruple panel, centre-opening telescopic sliding door (M4TZ, comparable C4)	○	○	○	○
Door width¹⁾				
700 – 1400 mm (two panel, telescopic opening door / centre-opening door) ³⁾	○	○	○	○
800 – 2500 mm (four panel, centre-opening telescopic door) ³⁾	○	○	○	○
Flexible door widths in 50 mm steps (not available for shaft front wall)	○	○	○	○
Door height 2000 – 2500 mm (available door heights with shaft front wall, see page 7)	○	○	○	○
Shaft headroom height²⁾				
min. 3300 mm, v = 1.0 m/s, CH = 2100 mm	○	○	○	○
min. 3500 mm, v = 1.6 m/s, CH = 2100 mm (only with gearless drive)	○	○	○	○
min. 3715 mm, v = 2.0 m/s, CH = 2100 mm (only with gearless drive)	○	○	○	○
min. 3950 mm, v = 2.5 m/s, CH = 2100 mm (only with gearless drive)	○	○	○	○
Shaft pit depth				
min. 1100 mm, Q ≤ 1000 kg, v = 1.0 m/s	○	○	○	○
min. 1150 mm, Q > 1000 - 1600 kg, v = 1.0 m/s	○	○	○	○
min. 1200 mm, Q > 1000 kg, v = 1.6 m/s (only with gearless drive)	○	○	○	○
min. 1250 mm, Q > 1000 - 1600 kg, v = 1.6 m/s (only with gearless drive)	○	○	○	○
min. 1500 mm, Q ≥ 630 – 1600 kg, v = 2.0 m/s (only with gearless drive)	○	○	○	○
min. 1950 mm, Q ≥ 630 – 1600 kg, v = 2.5 m/s (only with gearless drive)	○	○	○	○
Landing door	STYLE	CHIC	ELEGANT	VERTICAL
Installation in shaft/in recess (55 mm – M2T/M4TZ)/in deep recess (100 mm – M2T/M4TZ)	●/○/○	●/○/○	●/○/○	●/○/○
Installation in shaft/in recess (20 mm – M2Z)/in deep recess (60 mm – M2Z)	●/○/○	●/○/○	●/○/○	●/○/○
With shaft front wall: model landing door Fermator "40/10" respectively "Premium", model car door Fermator "Premium PM", installation in the shaft / in recess (recess = 115 mm for T2 (compar. M2T) / C4 (compar. M4TZ), recess = 65 mm for C2 (compar. M2Z))	●/○	●/○	●/○	●/○
Version				
Electrolytically Galvanised ⁴⁾	●	●	●	●
Hairline stainless steel grit 220, type 304	○	○	○	○
Stainless Steel, Linen	○	○	○	○
Stainless Steel, Diamond ⁴⁾	○	○	○	○
Stainless Steel, Leather	○	○	○	○
Powder coated RAL 9016 Traffic White ⁴⁾	○	○	○	○
Powder coated RAL 9006 White Aluminium ⁴⁾	○	○	○	○
Powder coated RAL 7032 Pebble Grey (only for door model Fermator "40/10" respectively "Premium")	●	●	●	●
Special protective coat of paint ⁴⁾	○	○	○	○
Door sill				
Aluminium door sill	●	●	●	●
Door sill made of stainless steel	○	○	○	○

¹⁾ For technical reasons, not all combination possibilities are possible for doors with respect to door designs, door widths and door heights. For details, please refer to the appropriate technical documents.
²⁾ Only possible in combination with versions: conventional counterweight, sliding guide on the elevator car and on counterweight. For car railing height of 700 mm (changed shaft headroom height with differing railing height).
³⁾ Door with shaft front wall: type T2 (compar. M2T): DW = 700 - 1400 mm; type C2 (compar. M2Z): DW = 900 - 2400 mm; DH = 2000 - 2500 mm.
⁴⁾ Not available for door with shaft front wall (model landing door Fermator "40/10" respectively "Premium", model car door Fermator "Premium PM").

● Standard equipment, ○ option, – not currently available. Please contact our sales consultants regarding the availability of options.

Landing door	STYLE	CHIC	ELEGANT	VERTICAL
Fire protection certificates				
Fire protection certificate E120 acc. to EN 81-58	●	●	●	●
Fire protection certificate E30 acc. to EN 81-58 ⁴⁾	○	○	○	○
Fire protection certificate EW30 acc. to EN 81-58 ⁴⁾	○	○	○	○
Fire protection certificate EW60 acc. to EN 81-58 ⁴⁾	○	○	○	○
Fire protection certificate E60 acc. to EN 81-58 ⁴⁾	○	○	○	○
Fire protection certificate E120 acc. to EN 81-58 ⁴⁾	○	○	○	○
Fire protection certificate E30 acc. to GHOST ⁴⁾	○	○	○	○
Fire protection certificate E120 acc. to GHOST (Version with smooth paint instead of textured paint) ⁴⁾	○	○	○	○
Fire protection certificate (2 hours acc. to BS476) ⁴⁾	○	○	○	○
Special versions (not all special versions (SA) can be combined with one another)				
SA12 Small height between floors (450 - 589 mm) with recess ⁴⁾	○	○	○	○
SA15 Stainless steel sill wheel load QRL = 500 kg (for door model Fermator "40/10" respectively "Premium": QRL = 900 kg)	○	○	○	○
SA16 Stainless steel sill wheel load QRL=1500 kg ⁴⁾	○	○	○	○
SA17 Stainless steel sill with hidden guide (incl. SA18 sill without visible guide) ⁴⁾	○	○	○	○
SA18 Sill without visible guide ⁴⁾	○	○	○	○
SA19 Profile section between narrow door frames ⁴⁾	○	○	○	○
SA29 Deliver door disassembled ⁴⁾	○	○	○	○
SA32 Fastening at shaft scaffold ⁴⁾	○	○	○	○
SA34 Covering on shaft side of door post and header, galvanised sheet metal ⁴⁾	○	○	○	○
SA35 Gap cover for plastering ⁴⁾	○	○	○	○
SA37 Rubber strip on door panel closing edge ⁴⁾	○	○	○	○
SA38 Wall-plug fixture instead of anchor rail mount (for door model Fermator "40/10" respectively "Premium": always wall-plug fixture)	○	○	○	○
SA39 Halogen-free cables, only safety circuit ⁴⁾	○	○	○	○
SA42 Widened toeguard, galvanised sheet metal ⁴⁾	○	○	○	○
SA43 Suspension gear on shaft side covered with galvanised sheet metal ⁴⁾	○	○	○	○
SA55 Twin-shell door panel according to EN 81-58 ⁴⁾	○	○	○	○
Glass door				
SA31 Glass door panels with 50 mm surrounding frame for landing doors ⁴⁾	○	○	○	○
SA33 Glass door panels with 25 mm surrounding frame for landing doors ⁴⁾	○	○	○	○
SA34 Covering on shaft side of door post and header, hairline stainless steel grit 220, type 304 ⁴⁾	○	○	○	○
SA34 Covering on shaft side of door post and header, stainless steel, Linen ⁴⁾	○	○	○	○
SA34 Covering on shaft side of door post and header in standard version, galvanised or powder coated sheet metal, Mouse Grey RAL7005 depending on door type ⁴⁾	○	○	○	○
SA41 Solid glass door panels for landing doors ⁴⁾	○	○	○	○
SA42 Widened toeguard, hairline stainless steel grit 220, type 304 ⁴⁾	○	○	○	○
SA42 Widened toeguard, stainless steel, Linen ⁴⁾	○	○	○	○
SA43 Suspension gear panelled on visible side, hairline stainless steel grit 220, type 304 ⁴⁾	○	○	○	○
SA43 Suspension gear panelled on visible side, stainless steel, Linen ⁴⁾	○	○	○	○
SA47 Glass door edge protection with panelling material (for solid glass doors) ⁴⁾	○	○	○	○
With shaft front wall: door model Fermator "40/10" and/or "Premium", glass door panels with surrounding frame without offset, visible frame width 120 mm (top / bottom) and 40 mm (at the side), without fire protection certificate; available door heights, see page 7	○	○	○	○
Car door	STYLE	CHIC	ELEGANT	VERTICAL
Monitoring of closing edges of door				
Standard light curtain (174 beams)	●	●	●	●
SA25 Door area motion detection system (infrared sensor) ⁴⁾	○	○	○	○
SA27 Additional car door locking device ⁴⁾	○	○	○	○
SA45 3D light grid ⁴⁾	○	○	○	○
Design of car door and door portal				
Hairline stainless steel grit 220, type 304	●	●	●	●
Stainless Steel, Diamond ⁴⁾	○	○	○	○
Stainless Steel, Linen	○	○	○	○
Stainless Steel, Leather	○	○	○	○
Powder coated RAL 9016 Traffic White ⁴⁾	-	-	-	○
Powder coated RAL 9006 White Aluminium ⁴⁾	-	-	-	○
Powder coated RAL 7032 Pebble Grey (only for door model Fermator "Premium PM")	-	-	-	○
Elevator car door panels, single-leaf	●	●	●	●
Elevator car door panels, twin-leaf ⁴⁾	○	○	○	○
Door sill made of aluminium	●	●	●	●
Door sill made of stainless steel	○	○	○	○

⁴⁾ Not available for door with shaft front wall (model landing door Fermator "40/10" respectively "Premium", model car door Fermator "Premium PM").

● Standard equipment, ○ option, – not currently available. Please contact our sales consultants regarding the availability of options.

Options

Notes

LEA® Comfort Plus

LEA® Comfort Plus

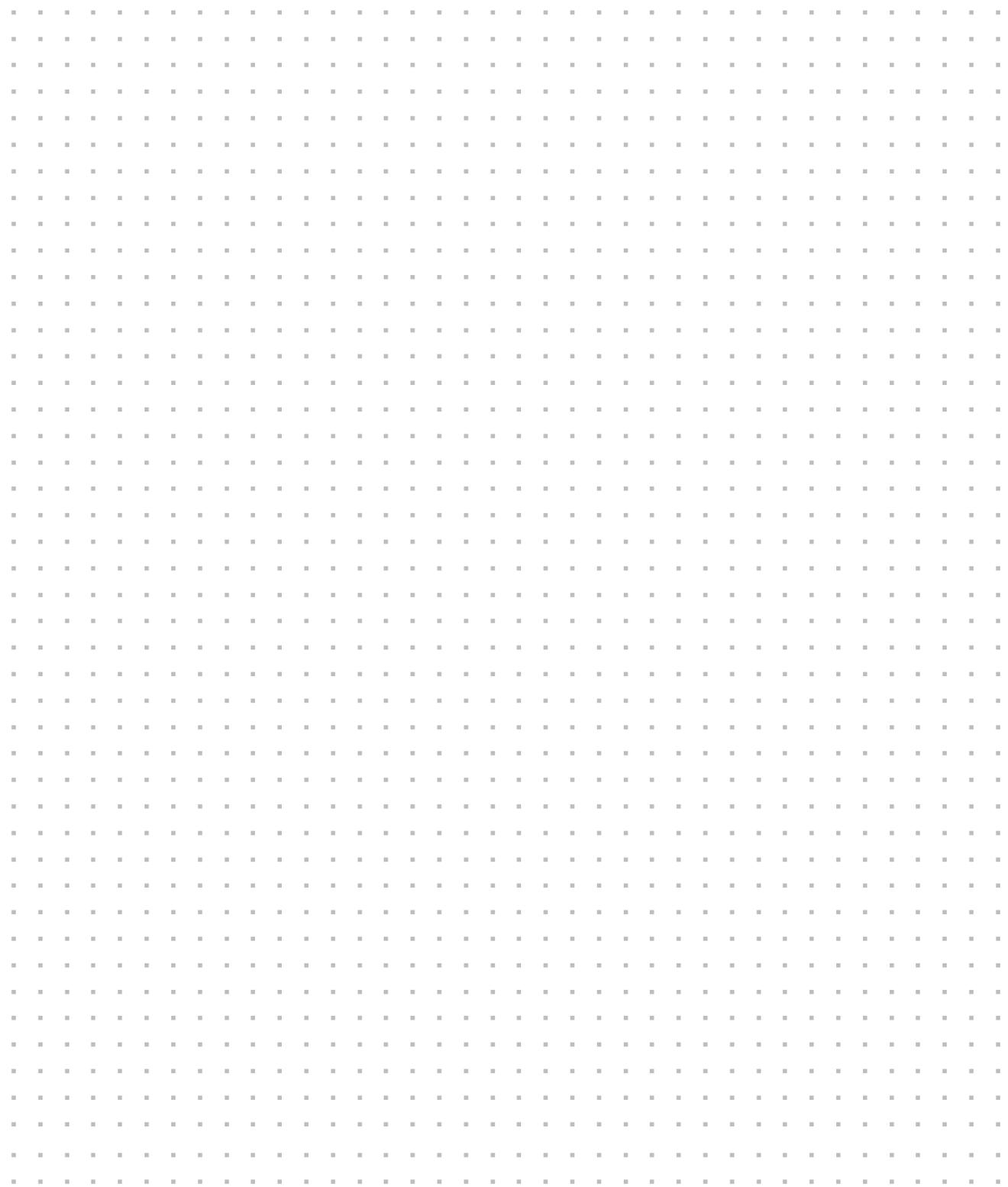
Car door	STYLE	CHIC	ELEGANT	VERTICAL
Glass door version				
SA30 Short cam for glass door ⁴⁾	○	○	○	○
SA31 Glass door panels with 50 mm surrounding frame for car doors ⁴⁾	○	○	○	○
SA33 Glass door panels with 50mm/25 mm surrounding frame for car doors ⁴⁾	○	○	○	○
SA41 Solid glass door panels for car doors ⁴⁾	○	○	○	○
SA47 Glass door edge protection with panelling material (for solid glass doors) ⁴⁾	○	○	○	○
With shaft front wall: door model Fermator "Premium PM", glass door panels with surrounding frame without offset, visible frame width 120 mm (top / bottom) and 40 mm (at the side), without fire protection certificate; available door heights, see page 7	○	○	○	○
Technical data	STYLE	CHIC	ELEGANT	VERTICAL
Car ventilation				
Car ventilation – indirect, invisible ventilation	●	●	●	● ⁵⁾
Fan in car ceiling with automatic switch-on/off and coasting	○	○	○	○
Car design				
Vertical Design	–	–	–	●
Uniform or individual elevator car operating panel division	–	–	–	○
Glass car	–	–	–	○
Glass rear wall	○	○	○	○
Miscellaneous	STYLE	CHIC	ELEGANT	VERTICAL
Counterweight				
Pulley guide at counterweight	○	○	○	○
Safety gear at counterweight	○	○	○	○
Counterweight cladding, galvanised	○	○	○	○
Counterweight cladding, hairline stainless steel grit 220, type 304	○	○	○	○
Pulley guide at elevator car	○	○	○	○
Shaft equipment				
Shaft lighting	○	○	○	○
Shaft lighting can be switched on the car roof	○	○	○	○
Protective tube for all shaft lighting	●	●	●	●
Shaft pit ladder	○	○	○	○
Adjustable bracket				
Wall plugging for adjustable bracket	○	○	○	○
Anchor rail mounting, type HTA40/22	○	○	○	○
Shaft traverses	○	○	○	○
Design packages and painting				
Painting, design package 1	○	○	○	○
Painting, design package 2 on request	○	○	○	○
Noise reduction kit acc. to VDI 2566 SSTII (will be available at a later date)	○	○	○	○
Noise reduction kit according to VDI 2566 SSTIII (noise protection level) (will be available at a later date)	○	○	○	○
Regulations				
Elevator system according to EN 81-20/50	●	●	●	●
EN 81-70 package with verbal announcement	○	○	○	○
EN 81-70 package with inductor loop	○	○	○	○
Firefighter's elevator according to EN 81-72 ⁶⁾	○	○	○	○
Measures for installation in earthquake-prone areas acc. to EN 81-77 - earthquake category 1 ⁶⁾	○	○	○	○

⁵⁾ Not possible in version with full-glass car.

⁶⁾ The shaft dimensions may change compared to the standard.

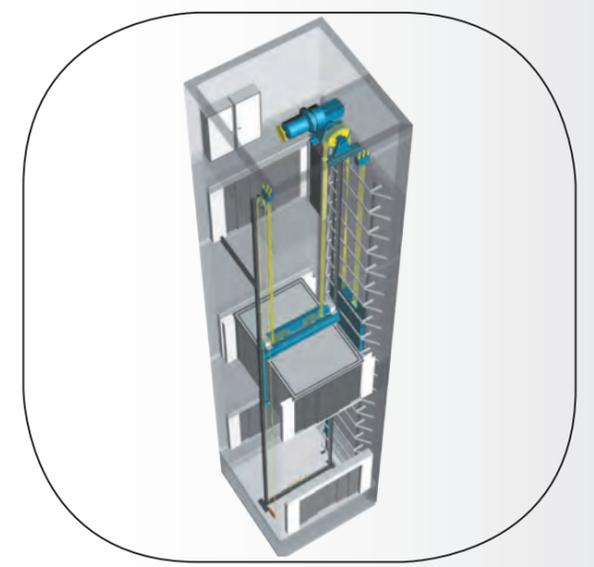
● Standard equipment, ○ option, – not currently available. Please contact our sales consultants regarding the availability of options.

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LEA® - Family

Standard	<p>At home in the standard range The economical and space-efficient solution for medium travel heights in the standard range. Reduced safety spaces available.</p> <p>Type: MRL Rated Load: 450 – 1.000 kg Travel height: 40 m Speed: 1.0 m/s</p>
Comfort	<p>The all-rounder Superior technology for exacting requirements and more heavily frequented buildings.</p> <p>Type: MRL Rated Load: 450 – 4.000 kg Travel height: 100 m Speed: up to 2.5 m/s</p>
Comfort Plus	<p>A classic Tried-and-tested elevator system with machine room and with geared or gearless drive.</p> <p>Type: MR Rated Load: 450 – 2.500 kg Travel height: 135 m Speed: up to 2.5 m/s</p>
Cargo	<p>Robust and reliable Sturdy freight elevator with machine room and with geared or gearless drive.</p> <p>Type: MR Rated Load: from 1.800 kg Speed: up to 1.0 m/s</p>



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System Description and Advantages

Technical Overview

LEA® Cargo elevator system

LiftEquip offers you with the LEA® Cargo elevator assembly kit a modern, adaptable solution for demanding transport operations in shopping centres and in industry applications. It is a robust passenger and freight elevator with machine room offering either a proven geared machine or an efficient gearless machine. The choice of machine type depends on the rated load and speed. Only proven and high-quality components are used.

Use a control system of your choice! In order to be able to offer LEA® Cargo to your customers, combine it with a control system freely available on the market and with operating and indicator elements of your choice. This ensures that you can configure LEA® Cargo for your customers into a product from your company.

LEA® Cargo exhibits the ultimate in flexibility when it comes to the doors: you can use two-, four- or six-panel centre-opening doors or one side-opening three-panel door. All the door systems are suitable for operation in the freight elevator under heavy-duty conditions. The modular system is offered with an entrance and open through entrance.

The door width can be designed to extend up to the car width. This provides the perfect conditions for loading and unloading. The complete range of wall and floor materials or the optional use of additional bumper rails prevents damage to the functionally elegant elevator car.

LEA® Cargo is a highly variable, economical and durable elevator system with a modern machine. By using a frequency inverter with

optional power regeneration it provides the perfect preconditions for energy-efficient operation.

Safety

- System in accordance with EN 81-20/-50, for commencement of operation per individual inspection with EU Type Test Certificate as basis

Efficiency

- Variable frequency control (VVVF) with power regeneration as an option
- Energy-saving LED lighting as an option

Economic efficiency

- Equipped either with a robust geared machine or with a highly efficient gearless machine

Reliability

- High reliability resulting from the use of robust components (e.g. solid doors)
- High-quality materials

Design

- Functional, durable car design
- Robust wall materials and load-bearing flooring materials, bumper rails optional

Comfort

- Door width can be designed up to the car width for easy loading and unloading

Scope of supply

- Wide range of door types and door dimensions from ThyssenKrupp or Meiller; further door makes can be used on request

- Common options available

- Safety components in IP54, Teil-Ex (partial explosion protection) and Ex (explosion protection) available on request

Flexibility

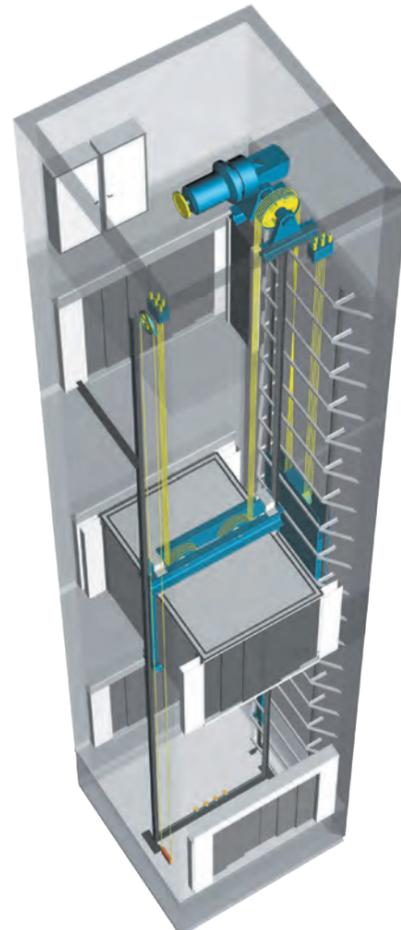
- Configurable into an elevator system from your company by deploying your preferred control system and the operating and indicator elements you wish to have

Engineering services

At your request LiftEquip also offers engineering services in the planning of elevator systems:

Configuration and selection of components, preparation of the general arrangement drawing (GAD).

This enables you to circumvent capacity bottlenecks or resort to additional areas of competence.



The following are **not** included in the LEA® Cargo scope of supply:

Control system with control cabinet, operating and indicator elements, external control panels, built-in control panel in the car, emergency call system, car distribution box, travelling cable, shaft selector, shaft wiring, shaft lighting, inspection control, emergency stop switch, integration of the inverter, connection of the car lighting and the overload sensor, load measurement system and electrical installations in the machine room.

Energy efficiency

With LEA® Cargo you can configure an elevator system that achieves a high energy efficiency class. You thereby make a significant contribution to the reduction of ongoing operating and energy costs and lowering CO₂ emissions.



Project planning (freight traction elevator with machine room above the shaft – 1:1 suspension)

1:1

Rated load	Q	[kg]	1600	2000	2500	2800
Rope suspension			1:1			
Speed	v	[m/s]	0.63 – 1.0 ¹⁾			
Travel height min. – max. ²⁾	TH	[m]	2.5 – 40			
Machine	Geared		Standard			
	Gearless		–			
Open through entrance			optional			
Car width	CW	[mm]	1400	1400 – 2150	1600 – 2550	1600 – 2600
Car depth	CD	[mm]	2400	1900 – 2950	1900 – 3000	
Car height	CH	[mm]	2000 – 2500			
Door width ³⁾	DW	[mm]	800 – 1400	800 – 2150	800 – 2550	800 – 2500
Door height ³⁾	DH	[mm]	2000 – 2500			
Distance, shaft wall - car (cw side)	B1	[mm]	570 – 850		585 – 850	700 – 1000
Distance, shaft wall - car	B2	[mm]	300 – 850			300 – 1000
Shaft headroom height min.	Min. SH	[mm]	CH + 1900 ⁴⁾			CH + 1900 ⁴⁾
Shaft pit depth min.	Min. SP	[mm]	1250 – 1400 ⁵⁾			1650 ⁵⁾

Specified loads

Forces on the machine room floor						
During normal operation	P1 – P5	[kN]	120	159	192	227
Unusual load ⁶⁾	P1 – P5	[kN]	382	474	614	724
Forces in the shaft pit						
Max. forces in the shaft pit	P7 – P10	[kN]	169	210	274	309

¹⁾ Speed v = 1.6 m/s available on request.

²⁾ The travel height decisively determines the elevator and shaft parameters. Exact planning specifications depend on the configuration of the elevator system in each case. Deviating dimensions are possible on request. Our sales advisers will be glad to provide information regarding the creation of exact planning data for your specific system configuration.

³⁾ Standard dimensions DW and DH in increments of 100 mm. ⁴⁾ Car roof/guard rail height of 1100 mm.

⁵⁾ Shaft pit depth increases at v > 1.0 m/s. ⁶⁾ These loads occur at least once a year during the annual check of the installation (safety gear test).

Details on determining the shaft depth dependent on the door type, see page 7.

Technical Overview

Planning Drawings: Elevator Shaft

Project planning (freight traction elevator with machine room above the shaft – 2:1 suspension)

2:1

Rated load	Q	[kg]	1600	2000	2500	3000	3500
Rope suspension			2:1				
Speed	v	[m/s]	0.63 – 1.0 ¹⁾				
Travel height min. – max. ²⁾	TH	[m]	2.5 – 40				
Machine	Geared		Standard				
	Gearless		optional				–
Open through entrance			optional				
Car width	CW	[mm]	1400	1400 – 2150	1600 – 2550	1900 – 2500	1600 – 3000
Car depth	CD	[mm]	2400	1900 – 2950	1900 – 3000		2150 – 4050
Car height	CH	[mm]	2000 – 2500				2000 – 2800
Door width ³⁾	DW	[mm]	800 – 1400	800 – 2150	800 – 2550	800 – 2500	800 – 3000
Door height ³⁾	DH	[mm]	2000 – 2500				
Distance, shaft wall - car (cw side)	B1	[mm]	570 – 850		585 – 850	700 – 1000	
Distance, shaft wall - car	B2	[mm]	300 – 850			300 – 1000	
Shaft headroom height min.	Min. SH	[mm]	CH + 1900 ⁴⁾				CH + 1900 ⁴⁾
Shaft pit depth min.	Min. SP	[mm]	1250 – 1400 ⁵⁾				1650 ⁵⁾

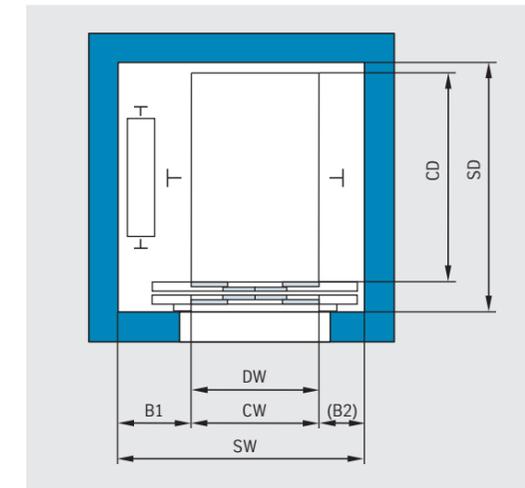
Specified loads							
Forces on the machine room floor							
During normal operation	P1 – P5	[kN]	120	159	192	227	220
Unusual load ⁶⁾	P1 – P5	[kN]	382	474	614	724	703
Forces in the shaft pit							
Max. forces in the shaft pit	P7 – P10	[kN]	169	210	274	309	337

Rated load	Q	[kg]	4000	4500	5000	5500	6000
Rope suspension			2:1			4:1	
Speed	v	[m/s]	0.63 – 1.0			0.3 – 0.5	
Travel height min. – max. ²⁾	TH	[m]	2.5 – 30				
Machine	Geared		Standard				
	Gearless		–				
Open through entrance			optional				
Car width	CW	[mm]	1600 – 3000	1600 – 2750	1800 – 2500	2000 – 2300	
Car depth	CD	[mm]	2400 – 4550	2400 – 5000	2550 – 4950	4100 – 4800	4500 – 5250
Car height	CH	[mm]	2000 – 2800				
Door width ³⁾	DW	[mm]	800 – 3000	800 – 2750	800 – 2500		
Door height ³⁾	DH	[mm]	2000 – 2800				
Distance, shaft wall - car (cw side)	B1	[mm]	700 – 1000		850 – 1000		
Distance, shaft wall - car	B2	[mm]	300 – 1000		400 – 1000		
Shaft headroom height min.	Min. SH	[mm]	CH + 1900 ⁴⁾			CH + 1900 ⁴⁾	
Shaft pit depth min.	Min. SP	[mm]	1650				

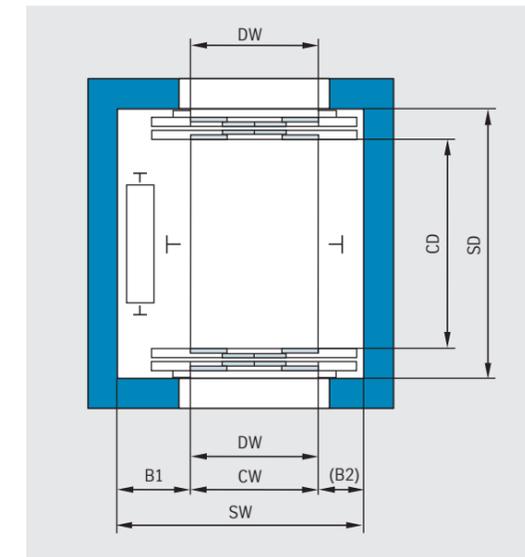
Specified loads							
Forces on the machine room floor							
During normal operation	P1 – P5	[kN]	241	264	290	360	380
Unusual load ⁶⁾	P1 – P5	[kN]	673	735	808	994	1037
Forces in the shaft pit							
Max. forces in the shaft pit	P7 – P10	[kN]	380	417	460	570	620

¹⁾ Speed v = 1.6 m/s available on request.
²⁾ The travel height decisively determines the elevator and shaft parameters. Exact planning specifications depend on the configuration of the elevator system in each case. Deviating dimensions are possible on request. Our sales advisers will be glad to provide information regarding the creation of exact planning data for your specific system configuration.
³⁾ Standard dimensions DW and DH in increments of 100 mm. ⁴⁾ Car roof/guard rail height of 1100 mm.
⁵⁾ Shaft pit depth increases at v > 1.0 m/s. ⁶⁾ These loads occur at least once a year during the annual check of the installation (safety gear test).
 Details on determining the shaft depth dependent on the door type, see page 7.

With 1 entrance

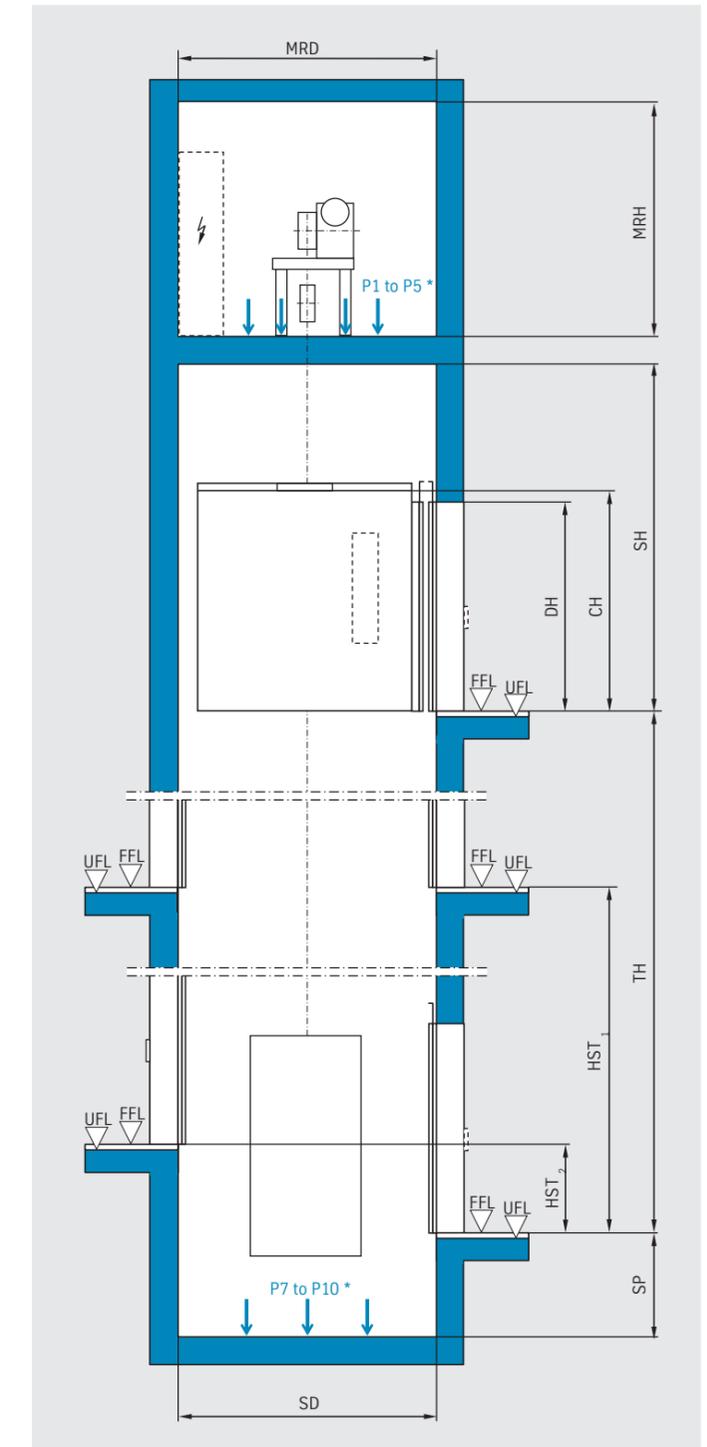


With open through entrance



- Key:**
- DH - Door height
 - DW - Door width
 - CH - Car height
 - CW - Car width
 - CD - Car depth
 - SW - Shaft width
 - SD - Shaft depth
 - MRH - Machine room height
 - MRD - Machine room depth
 - P1.. - Loads in the machine room or in the shaft pit
 - B1 - Distance, shaft wall - car (counterweight side)
 - B2 - Distance, shaft wall - car
 - TH - Travel height
 - HST - Floor clearance
 - SH - Shaft headroom height
 - SP - Shaft pit depth
 - FFL - Finished floor level
 - UFL - Unfinished floor level

Shaft vertical section

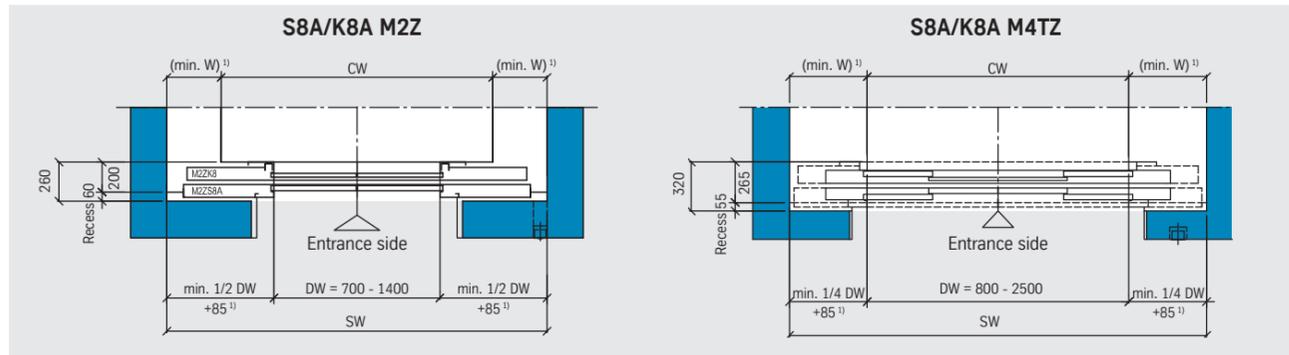


* The exact positions of the load points in the machine room and in the shaft pit are entered in the general arrangement drawing. The shaft layouts are examples and may also be shown mirror-inverted.

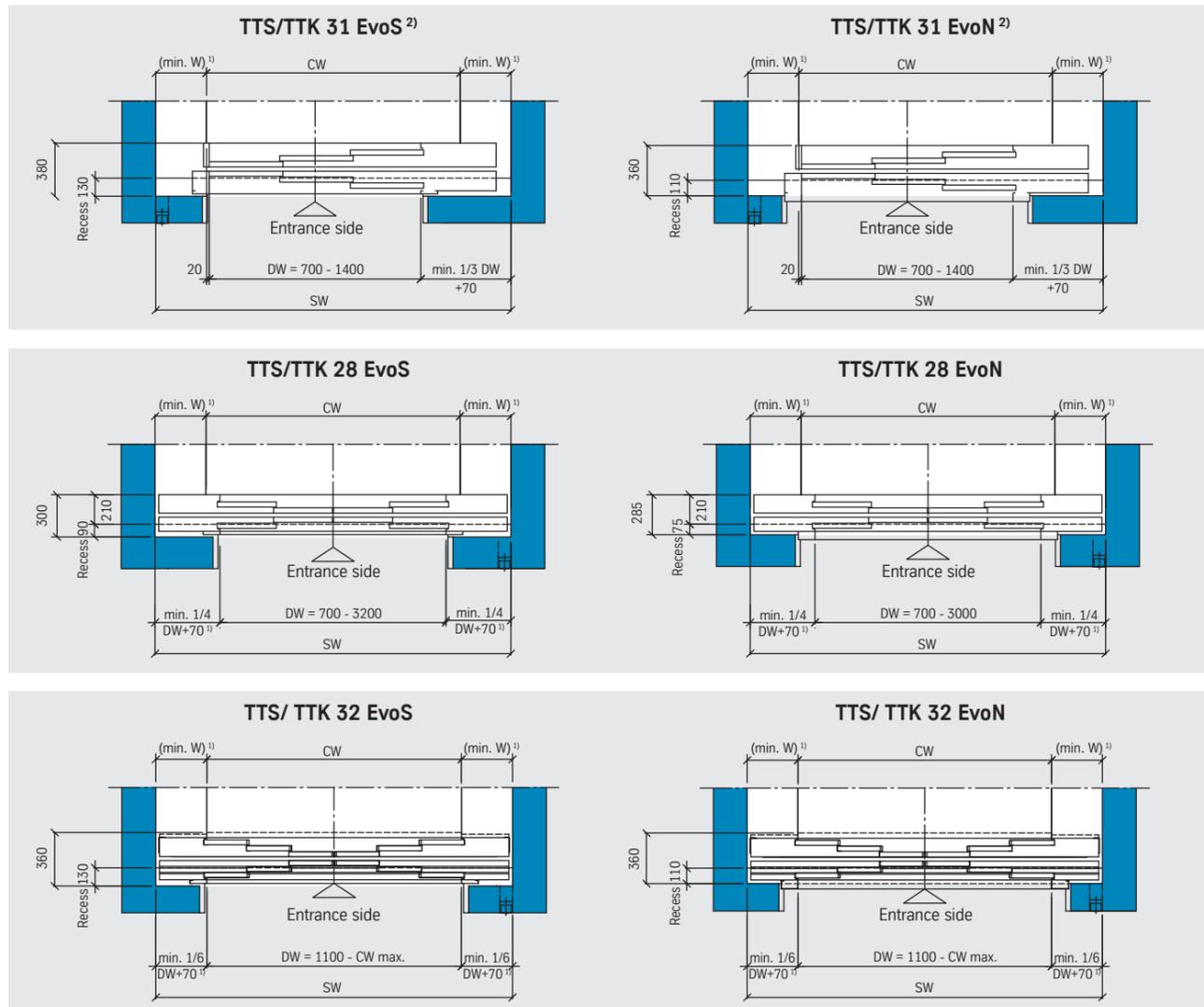
Planning Drawings: Doors

Planning Data: Doors

Landing and elevator car doors from ThyssenKrupp



Landing and elevator car doors from Meiller



¹⁾ The higher value in each case is valid. ²⁾ Door opening to the right pictured; version opening to the left also available. Key to the abbreviations used, see page 5.

Determining the shaft depth

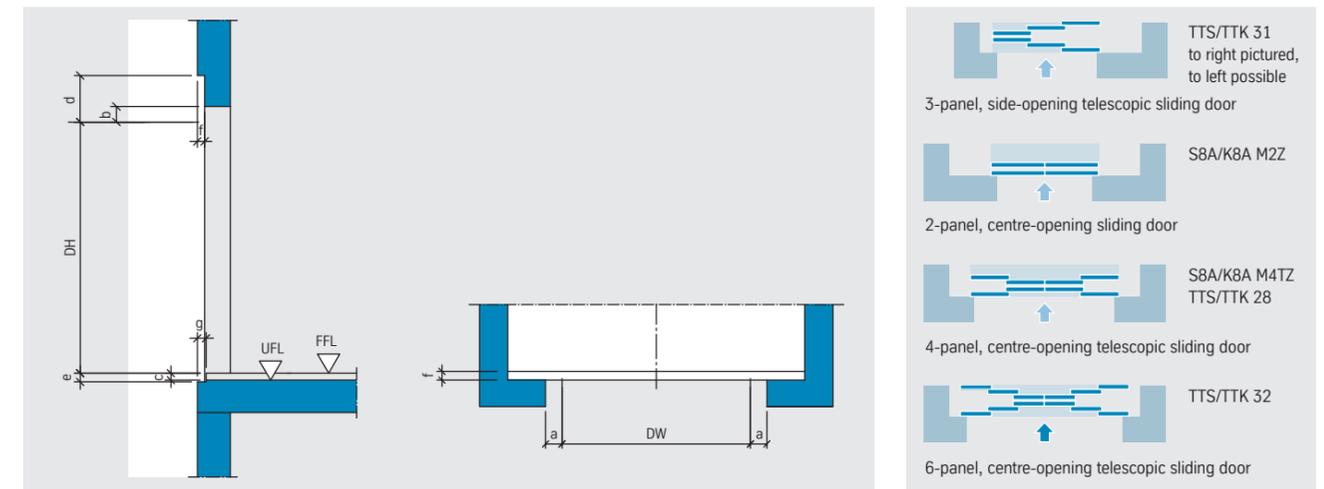
Manufacturer	Door type	Shaft depth w/out open through entrance [mm]	Shaft depth w/ open through entrance [mm]
ThyssenKrupp	S8A/K8A M2Z	SD = CD + 260 + 85 - 60 (recess*)	SD = CD + 2 x 260 - 2 x 60 (recess*)
ThyssenKrupp	S8A/K8A M4TZ	SD = CD + 320 + 85 - 55 (recess*)	SD = CD + 2 x 320 - 2 x 55 (recess*)
Meiller	TTS/TTK 31 EvoS	SD = CD + 380 + 85 - 130 (recess*)	SD = CD + 2 x 380 - 2 x 130 (recess*)
Meiller	TTS/TTK 31 EvoN	SD = CD + 360 + 85 - 110 (recess*)	SD = CD + 2 x 360 - 2 x 110 (recess*)
Meiller	TTS/TTK 28 EvoS	SD = CD + 300 + 85 - 95 (recess*)	SD = CD + 2 x 300 - 2 x 95 (recess*)
Meiller	TTS/TTK 28 EvoN	SD = CD + 285 + 85 - 75 (recess*)	SD = CD + 2 x 285 - 2 x 75 (recess*)
Meiller	TTS/TTK 32 EvoS	SD = CD + 380 + 85 - 130 (recess*)	SD = CD + 2 x 380 - 2 x 130 (recess*)
Meiller	TTS/TTK 32 EvoN	SD = CD + 360 + 85 - 110 (recess*)	SD = CD + 2 x 360 - 2 x 110 (recess*)

* Subtract depth for the recess(es) only if planned with recess(es).

Fire protection approval for landing doors

Manufacturer	Door type	Fire protection	a	b	c	d	e	f	g
ThyssenKrupp	S8A/K8A M2Z	BS 476 [SA100]	70	120	≤90	300	90	60	60
ThyssenKrupp	S8A/K8A M2Z	EN 81-58 (E120, EW30/60) [SA104/105]	120	120	≤90	300	90	60	60
ThyssenKrupp	S8A/K8A M2Z	EN 81-58 (EI60) [SA106]	120	120	≤90	300	90	60	60
ThyssenKrupp	S8A/K8A M2Z	EN 81-58 (EI120) [SA109]	70	70	≤90	300	90	60	60
ThyssenKrupp	S8A/K8A M2Z	DIN 18091 [SA105]	120	120	≤90	300	90	60	60
ThyssenKrupp	S8A/K8A M2Z	[SA16]							140
ThyssenKrupp	S8A/K8A M4TZ	BS 476 [SA100]	70	120	≤90	300	90	55	55
ThyssenKrupp	S8A/K8A M4TZ	EN 81-58 (E120, EW30/60) [SA104/105]	120	120	≤90	300	90	55	55
ThyssenKrupp	S8A/K8A M4TZ	EN 81-58 (EI60) [SA106]	120	120	≤90	300	90	55	55
ThyssenKrupp	S8A/K8A M4TZ	EN 81-58 (EI120) [SA109]	70	70	≤90	300	90	55	55
ThyssenKrupp	S8A/K8A M4TZ	DIN 18091 [SA105]	120	120	≤90	300	90	55	55
ThyssenKrupp	S8A/K8A M4TZ	[SA16]							140
Meiller	TTS/TTK 31 EvoS	EN 81-58	50	50	≤90	500	300	130	130
Meiller	TTS/TTK 31 EvoN	DIN 18091	120	120	≤90	500	300	110	110
Meiller	TTS/TTK 28 EvoS	EN 81-58	50	50	≤90	500	300	90	90
Meiller	TTS/TTK 28 EvoN	DIN 18091	120	120	≤90	500	300	75	75
Meiller	TTS/TTK 32 EvoS	EN 81-58	50	50	≤90	500	300	130	130
Meiller	TTS/TTK 32 EvoN	DIN 18091	120	120	≤90	500	300	110	110

SA – Special version; dimensions in mm. Key to the abbreviations used, see page 5.



Robust Elevator Car Equipment

Main Components

LEA® Cargo

LEA® Cargo as an elevator assembly kit for carrying passengers and freight is characterised by an attractive and yet very robust car. The horizontal projection, the choice of materials and the layout of all the elements are designed for easy, rapid loading and unloading and for a long service life.

1 Car operating panel / internal push-button box (not included in the scope of supply)

- For installation flush with the car wall, in a recess for a control box or for a high operating panel

2 Car lighting

- Let in flush or very flat structural shapes
- Bright lighting
- * optionally with LED light source

3 Wall panels

- Sheet steel, impact-resistant and structurally stiffened
- High-quality powder coating
- Stainless steel versions

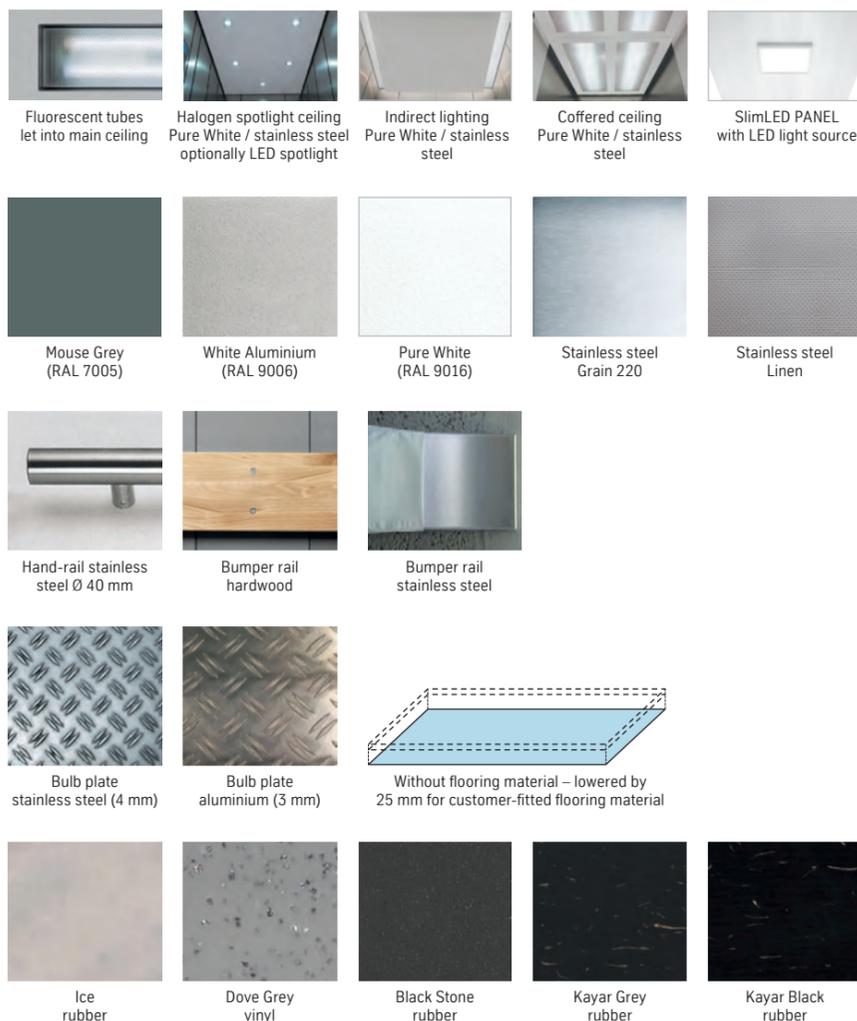
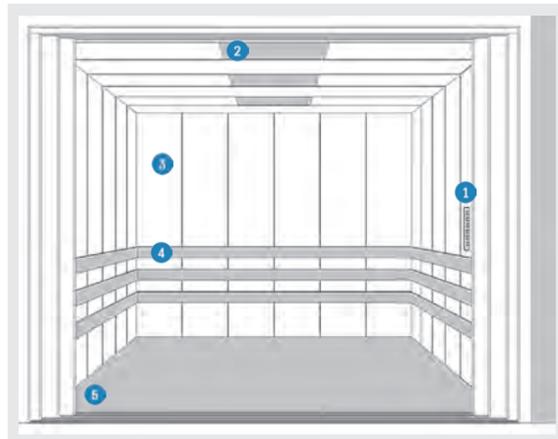
4 Hand-rail and bumper rail

- Hand-rail stainless steel 40 mm
- Bumper rail to protect the car walls (can be designed in 1 to 3 rows), height of sections approx. 200 mm

5 Flooring material (on site)

- Bulb plate 6 mm, primed as standard
- Materials made of rubber or vinyl

If the floor is divided, it must be welded on site.



Geared machines



The range of machines from LiftEquip has an excellent reputation and covers a finely graduated performance range.

- Gears TW63B, TW130, TW160, W263C and W332C
- Single-stage worm gear
- Type-approved protective device (optionally with emergency brake system NBS) and thus EN 81-UCM compliant (TW63B, TW130, TW160)
- Flexible erection thanks to horizontal or vertical motor position (TW63B, TW130)
- VVVF motors, type B5, with flexible clutch

- Use of synthetic oil for long oil change intervals
- Wide range of traction sheave diameters, positioned on the left or right
- Low-wear traction sheave thanks to hardened traction sheave grooves
- Different designs on the machine base frame with and without diverter pulley for 2:1 or 1:1 rope suspensions
- Gear in accordance with ATEX
- Many options available: partial explosion protection / explosion protection versions, extended shaft, etc.

Gearless machines



The SC300 and SC400 synchronous gearless machines are the workhorses of the range and are suitable for deployment in freight elevators:

- High efficiency
- Low noise
- Stable, compact monoblock housing
- Anti-friction bearings with life-time lubrication
- Ideally suited for power regeneration

- Brake system against overspeed in accordance with EN 81-20 /5.6.6 and against unintended movement of the elevator car in accordance with EN 81-20 /5.6.7
- UCM verification using the safety brake of the machine and considering the switching times of the control system
- Different designs on the machine base frame with and without diverter pulley for 2:1 rope suspension
- Optionally with counter-pulley suitable for double rope wrap

Frequency inverters



MFC 20/21 and MFC 30/31 inverters

The vector-controlled frequency inverters from LiftEquip are matched to the geared (asynchronous) and gearless (synchronous) machines.

- Inverter with brake activation, power filter and power choke
- With travel contactor (MFC 30/31)
- Brake resistor in a separate housing
- Motor parameters stored
- Rapid commissioning via Plug&Play
- Emergency power mode possible in the event of a power failure via UPS (uninterruptible power supply)
- Integrated speed monitoring for compliance with EN81-UCM (for MFC 30/31) in conjunction with suitable control system
- Parallel interface and DCP03

Inverters with power regeneration

The MFC-R and MFR frequency inverters with power regeneration capability have the optimum technologies for an energy-efficient elevator.

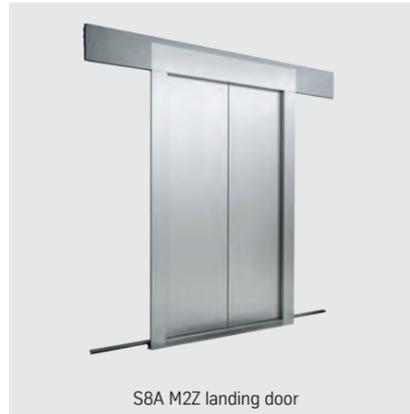
- In addition to the attributes of MFC units:
- Inverter with electronic brake activation, power filter, power choke and electronic travel contactors
 - Integrated power regeneration, which means no brake resistor is required
 - Possibility for activation of a standby and sleep mode to improve energy efficiency
 - Possibility for remote parameterisation via parallel interface, DCP03/04 and CANopen

LEA® Cargo

Main Components

Scope of Supply and Planning Information

Doors from ThyssenKrupp



S8A M2Z landing door

The S8A/K8A door series is characterised by very high robustness, durability and an extensive range of options. In a freight elevator we recommend:

- 2-panel, centre-opening sliding door (M2Z)
- 4-panel, centre-opening telescopic sliding door (M4TZ)
- Safe and robust mechanical construction with powerful door drive
- Long service life as a result of the exclusive deployment of proven and tested materials and components

- Robust sill substructure with solid stainless steel sills up to the encompassing, concealed sill guide designed for heavy-duty loading and unloading
- High-quality door safety lock systems and short door reversal times to prevent collision with the freight and to protect the technology against damage
- Ensuring a rapid and long-lasting spare parts availability
- Elegant and convenient door, ideally suitable for use in prestigious surroundings, such as shopping centres

Doors from Meiller



TTS 32 landing door

The heavy industrial doors are specifically designed for heavy-duty use in industrial and commercial applications.

In a freight elevator subject to heavy loads or with door widths > 2500 mm we recommend:

- 3-panel, side-opening telescopic sliding door (TTS/K 31)
- 4-panel, centre-opening telescopic sliding door (TTS/K 28)
- 6-panel, centre-opening telescopic sliding door (TTS/K 32)

- Sturdy designs of door frame, track rails, track rollers and sill
- Sturdy, secure lower door panel guide, infinitely variable, where necessary can be exchanged without removing the door panels

Reference examples



LEA® Cargo scope of supply

Machine

- Gear with motor or gearless machine, with brake, motor cable and rotary transducer with cable
- Traction sheave with rope guard cover
- Machine base frame with diverter or guide pulley (with 2:1 suspension)
- Insulated elements to prevent transmission of structure-borne noise (rubber blocks)
- Optionally with gear: emergency brake system (NBS)

Frequency inverter

- MFC 20 / 30 (for geared) or MFC 21 / 31 (for gearless), without power regeneration, with regeneration resistor
- Optionally MFC 21-R / MFR with power regeneration (for gearless only)

Elevator car

- Car with individual dimensions
- Car type P1000 or P4000 with car guard rail
- FleCS-4 series sling (depending on rated load)
- Guide pulleys for 2:1 suspension
- Optionally vibration isolation with steel springs or rubber elements
- Ventilation via door gap and vents in the door recess, ventilation via openings in the car ceiling

Counterweight

- Steel frame with sheet metal cladding
- Guide pulley for 2:1 suspension
- Weight inserts: steel and Gussolith in variable proportions

Guides on elevator car / counterweight

- Moving plastic sliding guides with lubricating units
- Optional pulley guides

Guide rails

- Steel rails (T-section) for car and counterweight with butt straps

Rope system

- Steel ropes
- Rope anchor points with insulation for positioning in the machine room for 2:1 suspension
- Compensation chain from travel height > 33 m (depending on the design)

Shaft equipment

- Sliding bracket with mounting parts

Painting/priming

- Steel parts mainly with powder coating (similar to RAL 7005) or priming (RAL 7031 and/or RAL 7005), layer thickness approx. 60 µm; galvanised parts remain galvanised

Landing and car doors

- Different door makes and door types for installation in the shaft or recess
- Different designs: colours in RAL or stainless steel
- Door drive with closing force limiter
- Different sill designs: steel or stainless steel
- Optionally concealed sill guide
- Light curtain

Progressive safety gear

- Safety gear for downward travel integrated in the sling and braking device for upward travel
- Optional: protection in upward travel by emergency brake system (geared) or monitored service brake in acc. with EN 81-20, 5.6.6 (gearless)

Overspeed governor

- For installation in the machine room, without test groove
- Governor rope 6.5 mm
- Tensioning device for shaft pit

Buffer

- Polyurethane buffer ($v \leq 1.0$ m/s) with pit element for installation in the shaft pit

Not included in the scope of supply are:

- Control system with control cabinet
- Operating and indicator elements
- External control panels
- Built-in control panel in the car
- Emergency call system
- Car distribution box
- Travelling cable
- Shaft selector
- Shaft wiring and lighting
- Inspection control, emergency stop switch
- Integration of the inverter
- Connection of the car lighting and the overload sensor
- Load measurement system (occupied, full load, overload)
- Electrical installations in the machine room
- emergency light

All of the above components must be provided by the installation firm and/or a control system supplier.

Installations with enhanced safety classes

LiftEquip offers a wide range of elevator and safety components of special designs for installations in IP54, partial explosion protection (Part-Ex) and explosion protection (Ex):

- Geared and gearless machines with brake system
- Overspeed governor
- Door with door lock, door drive and light curtain
- Elevator car lighting

This gives you the opportunity also to design installations for use in the highly demanding cement, chemical and petrochemical industries.

Range of Geared Machines

Range of Geared Machines

The following overviews of specimen configurations show the wide performance range of our machines with matching frequency inverters. From these tables you can choose the drive technology configuration that is perfectly suited to your requirements. Naturally we can on request implement an individual configuration with your specific installation data.

Geared machines (freight traction elevator with machine room above the shaft – 1:1 suspension)

1:1

Travel height	25 m			40 m		
	0.63 m/s	0.8 m/s	1 m/s	1.2 m/s	1.6 m/s	2 m/s
Q = 1600 kg F = 1800 kg	TW130 , 52:1, TS 540 9737 kJ/h, 10.4 kW 23.9 A/34.2 A 1159 rpm, (NBS) MFC 20-32 V1	TW130 , 42:1, TS 540 10563 kJ/h, 15.2 kW 26.8 A/39.2 A 1188 rpm, (NBS) MFC 20-32 V1	TW130 , 35:1, TS 540 12597 kJ/h, 15.8 kW 31.3 A/46.1 A 1238 rpm, (NBS) MFC 20-32 V1	TW130 , 35:1, TS 540 14244 kJ/h, 20.5 kW 36.9 A/49.9 A 1485 rpm, (NBS) MFC 20-48 V1	TW130 , 45:2, TS 540 18007 kJ/h, 27.5 kW 45.8 A/68.2 A 1273 rpm, (NBS) MFC 20-48 V1	TW160 , 45:2, TS 640 22441 kJ/h, 27.5 kW 57.3 A/81.8 A 1343 rpm, (NBS) MFC 20-60 V1
Q = 1800 kg F = 2000 kg	TW130 , 52:1, TS 540 10891 kJ/h, 10.4 kW 26.6 A/37.4 A 1159 rpm, (NBS) MFC 20-32 V1	TW130 , 42:1, TS 540 11791 kJ/h, 15.2 kW 29.9 A/43 A 1188 rpm, (NBS) MFC 20-32 V1	TW130 , 35:1, TS 540 14086 kJ/h, 15.8 kW 35 A/50.7 A 1238 rpm, (NBS) MFC 20-48 V1	TW130¹⁾ , 45:2, TS 540 17041 kJ/h, 18.5 kW 38.3 A/53.3 A 955 rpm, (NBS) MFC 20-48 V1	TW160 , 51:2, TS 640 20881 kJ/h, 26.8 kW 52.9 A/78.8 A 1218 rpm, (NBS) MFC 20-60 V1	*TW160 , 45:2, TS 640 23805 kJ/h, 33.5 kW 59.8 A/87.9 A 1343 rpm, (NBS) MFC 20-60 V1
Q = 2000 kg F = 2200 kg	TW130 , 42:1, TS 540 11336 kJ/h, 18.5 kW 24.3 A/33.6 A 936 rpm, (NBS) MFC 20-32 V1	TW130 , 35:1, TS 540 13544 kJ/h, 18.5 kW 30 A/39.7 A 990 rpm, (NBS) MFC 20-32 V1	TW160 , 41:1, TS 640 16063 kJ/h, 20.1 kW 39.1 A/57.6 A 1225 rpm, (NBS) MFC 20-48 V1	TW160 , 35:1, TS 640 18412 kJ/h, 20.5 kW 44.7 A/66.8 A 1253 rpm, (NBS) MFC 20-48 V1	TW160 , 51:2, TS 640 23266 kJ/h, 26.8 kW 59 A/87 A 1217 rpm, (NBS) MFC 20-60 V1	W263C , 41:2, TS 640 31384 kJ/h, 36.2 kW 73.7 A/113.2 A 1224 rpm MFC 20-105 V1
Q = 2200 kg F = 2400 kg	TW160 , 50:1, TS 640 12777 kJ/h, 18.5 kW 26.9 A/36.6 A 940 rpm, (NBS) MFC 20-32 V1	TW160 , 50:1, TS 640 14737 kJ/h, 15.3 kW 36.4 A/51.1 A 1194 rpm, (NBS) MFC 20-48 V1	TW160 , 41:1, TS 640 17637 kJ/h, 20.1 kW 42.9 A/62.4 A 1224 rpm, (NBS) MFC 20-48 V1	TW160 , 35:1, TS 640 18903 kJ/h, 27.5 kW 46.7 A/70 A 1253 rpm, (NBS) MFC 20-48 V1	W263C , 41:2, TS 540 27506 kJ/h, 31.1 kW 70.3 A/107.1 A 1160 rpm MFC 20-105 V1	W263C , 41:2, TS 540 31658 kJ/h, 42.0 kW 80.6 A/130.9 A 1450 rpm MFC 20-105 V1
Q = 2400 kg F = 2600 kg	TW160 , 50:1, TS 640 13885 kJ/h, 18.5 kW 29.2 A/39.2 A 940 rpm, (NBS) MFC 20-32 V1	TW160 , 41:1, TS 640 16545 kJ/h, 18.5 kW 36.1 A/46.9 A 979 rpm, (NBS) MFC 20-48 V1	TW160 , 35:1, TS 640 18262 kJ/h, 23.0 kW 50.5 A/71.2 A 1045 rpm, (NBS) MFC 20-60 V1	W263C , 40:1, TS 640 22661 kJ/h, 27.5 kW 57.3 A/82 A 1432 rpm MFC 20-60 V1	W263C , 41:2, TS 540 29694 kJ/h, 34.3 kW 71.3 A/107.9 A 1160 rpm MFC 20-105 V1	W332C , 46:2, TS 700 36143 kJ/h, 45.4 kW 93.6 A/176.7 A 1255 rpm MFC 20-105 V1
Q = 2600 kg F = 2800 kg	W332C , 63:1, TS 640 16046 kJ/h, 26.1 kW 38.3 A/87.4 A 1184 rpm MFC 20-60 V1	W263C , 40:1, TS 540 18431 kJ/h, 24.9 kW 46.5 A/70.5 A 1132 rpm MFC 20-48 V1	W263C , 40:1, TS 540 20833 kJ/h, 27.5 kW 52.6 A/75.4 A 1415 rpm MFC 20-60 V1	W332C , 47:1, TS 800 26872 kJ/h, 33.5 kW 65.1 A/121 A 1347 rpm MFC 20-105 V1	W332C , 59:2, TS 700 34660 kJ/h, 42 kW 82 A/166.7 A 1288 rpm MFC 20-105 V1	*W332C , 46:2, TS 640 36445 kJ/h, 45.4 kW 95.3 A/173.6 A 1373 rpm MFC 20-105 V1
Q = 2800 kg F = 3000 kg	*W332C , 63:1, TS 640 16622 kJ/h, 26.1 kW 37.9 A/87.9 A 1184 rpm MFC 20-60 V1	W332C , 63:1, TS 700 19808 kJ/h, 33.5 kW 47.9 A/101.2 A 1375 rpm MFC 20-60 V1	W332C , 47:1, TS 640 23550 kJ/h, 33.5 kW 58.1 A/101.9 A 1403 rpm MFC 20-60 V1	W332C , 47:1, TS 800 28833 kJ/h, 33.5 kW 69.7 A/126.6 A 1347 rpm MFC 20-105 V1	W332C , 59:2, TS 700 37186 kJ/h, 42 kW 87.8 A/175.8 A 1288 rpm MFC 20-105 V1	W332C , 46:2, TS 640 38059 kJ/h, 45.4 kW 97.2 A/178.3 A 1373 rpm MFC 20-105 V1

Specimen configurations, changes possible

* 50% load capacity compensation
Machine type, gear ratio, traction sheave Ø [mm]
Heat to be dissip. [kJ/h], motor output [kW] at rpm
Req. motor current [A] / req. starting current [A]
Motor speed [rpm], (NBS possible)
Inverter type.

Q = Load capacity,
F = Car weight max.,
TS = Traction sheave diameter,
NBS = Emergency brake system.

¹⁾ Stronger brake

Geared machines (freight traction elevator with machine room above the shaft – 2:1 suspension)

2:1

Travel height	25 m				40 m
	0.63 m/s	0.8 m/s	1 m/s	1.2 m/s	1.6 m/s
Q = 1600 kg F = 1800 kg	TW63B , 33:1, TS 590 7744 kJ/h, 10 kW 23.7 A/31.8 A 1346 rpm, (NBS) MFC 20-32 V1	TW63B , 48:2, TS 590 9716 kJ/h, 12.9 kW 25.6 A/37.4 A 1243 rpm, (NBS) MFC 20-32 V1	TW63B , 43:3, TS 450 11577 kJ/h, 12.7 kW 31.1 A/45.1 A 1217 rpm, (NBS) MFC 20-32 V1	TW130 , 43:3, TS 540 14134 kJ/h, 15.6 kW 36.9 A/53.4 A 1217 rpm, (NBS) MFC 20-48 V1	TW130 , 43:3, TS 4640 17993 kJ/h, 27.5 kW 46.8 A/65.6 A 1369 rpm, (NBS) MFC 20-48 V1
Q = 2000 kg F = 2200 kg	TW63B , 48:2, TS 450 9333 kJ/h, 10 kW 28 A/38.1 A 1283 rpm, (NBS) MFC 20-32 V1	TW130 , 45:2, TS 540 11736 kJ/h, 16 kW 29.3 A/42.1 A 1273 rpm, (NBS) MFC 20-32 V1	*TW130 , 45:2, TS 640 13668 kJ/h, 16 kW 34 A/48.1 A 1343 rpm, (NBS) MFC 20-48 V1	TW130 , 43:3, TS 540 17425 kJ/h, 20 kW 43.9 A/65.2 A 1217 rpm, (NBS) MFC 20-48 V1	TW130¹⁾ , 43:3, TS 640 21916 kJ/h, 27.5 kW 56.8 A/77.8 A 1369 rpm, (NBS) MFC 20-60 V1
Q = 2500 kg F = 2500 kg	TW130 , 35:1, TS 640 12048 kJ/h, 16 kW 30.2 A/40.8 A 1316 rpm, (NBS) MFC 20-32 V1	TW130 , 45:2, TS 540 14447 kJ/h, 16 kW 36 A/49.4 A 1273 rpm, (NBS) MFC 20-48 V1	TW130 , 45:2, TS 640 17805 kJ/h, 20.5 kW 44.6 A/60.4 A 1343 rpm, (NBS) MFC 20-48 V1	*TW130¹⁾ , 43:3, TS 540 18859 kJ/h, 26.8 kW 47.2 A/71.3 A 1217 rpm, (NBS) MFC 20-48 V1	TW130¹⁾ , 43:3, TS 540 25128 kJ/h, 33.5 kW 67 A/80.3 A 1622 rpm, (NBS) MFC 20-105 V1
Q = 3000 kg F = 2800 kg	TW130 , 35:1, TS 640 14468 kJ/h, 16 kW 36.2 A/47 A 1316 rpm, (NBS) MFC 20-48 V1	TW130 , 45:2, TS 540 17357 kJ/h, 20.5 kW 42.8 A/58.5 A 1273 rpm, (NBS) MFC 20-48 V1	TW130 , 45:2, TS 540 19078 kJ/h, 27.5 kW 50.9 A/61.1 A 1592 rpm, (NBS) MFC 20-60 V1	TW130¹⁾ , 43:3, TS 540 23444 kJ/h, 32.6 kW 59.5 A/86.1 A 1217 rpm, (NBS) MFC 20-60 V1	TW160 , 41:3, TS 640 31911 kJ/h, 42 kW 79.4 A/129 A 1305 rpm, (NBS) MFC 20-105 V1
Q = 3500 kg F = 3200 kg	TW130 , 45:2, TS 540 16973 kJ/h, 18.5 kW 38.6 A/46.4 A 1003 rpm, (NBS) MFC 20-48 V1	TW160 , 57:2, TS 640 19171 kJ/h, 27.5 kW 48.2 A/63.6 A 1361 rpm, (NBS) MFC 20-48 V1	TW160 , 45:2, TS 640 23354 kJ/h, 27.5 kW 58.8 A/77.4 A 1343 rpm, (NBS) MFC 20-60 V1	TW160 , 45:2, TS 640 26088 kJ/h, 33.5 kW 68.6 A/81.8 A 1611 rpm, (NBS) MFC 20-105 V1	*W332C , 57:3, TS 800 36107 kJ/h, 45.4 kW 97.9 A/179.1 A 1452 rpm MFC 20-105 V1
Q = 4000 kg F = 3500 kg	TW160 , 35:1, TS 640 18719 kJ/h, 20.5 kW 45.8 A/59.2 A 1316 rpm, (NBS) MFC 20-60 V1	TW160 , 51:2, TS 640 22169 kJ/h, 26.8 kW 55.4 A/75 A 1218 rpm, (NBS) MFC 20-60 V1	TW160 , 45:2, TS 640 25900 kJ/h, 33.5 kW 64.7 A/85.7 A 1343 rpm, (NBS) MFC 20-105 V1	W263C , 41:2, TS 640 34038 kJ/h, 42 kW 86.6 A/131.6 A 1468 rpm MFC 20-105 V1	
Q = 4500 kg F = 4000 kg	TW160 , 35:1, TS 640 19722 kJ/h, 27.5 kW 49.2 A/64.3 A 1316 rpm, (NBS) MFC 20-48 V1	W263C , 50:2, TS 540 25747 kJ/h, 33.5 kW 64.8 A/87.9 A 1415 rpm MFC 20-105 V1	W263C , 41:2, TS 540 31046 kJ/h, 42 kW 78 A/120 A 1450 rpm MFC 20-105 V1	*W332C , 57:3, TS 640 36192 kJ/h, 42 kW 86.3 A/172.4 A 1361 rpm MFC 20-105 V1	
Q = 5000 kg F = 4500 kg	W263C , 50:2, TS 540 24781 kJ/h, 29.9 kW 63.4 A/88.6 A 1114 rpm MFC 20-105 V1	W263C , 41:2, TS 540 30548 kJ/h, 34.3 kW 72.9 A/101.1 A 1160 rpm MFC 20-105 V1	W332C , 46:2, TS 640 37725 kJ/h, 45.4 kW 95.8 A/177.5 A 1373 rpm MFC 20-105 V1	* 50% load capacity compensation Machine type, gear ratio, traction sheave Ø [mm] Heat to be dissip. [kJ/h], motor output [kW] at rpm Req. motor current [A] / req. starting current [A] Motor speed [rpm], (NBS possible) Inverter type.	
Q = 5500 kg F = 5000 kg	W332C , 47:1, TS 800 28731 kJ/h, 33.5 kW 70.8 A/123.9 A 1414 rpm MFC 20-105 V1	W332C , 59:2, TS 640 34694 kJ/h, 42 kW 85 A/163.1 A 1409 rpm MFC 20-105 V1	*W332C , 46:2, TS 640 37993 kJ/h, 45.4 kW 98.7 A/176.3 A 1373 rpm MFC 20-105 V1		
Q = 6000 kg F = 5500 kg	W332C , 47:1, TS 800 31916 kJ/h, 37 kW 74.6 A/124.8 A 1414 rpm MFC 20-105 V1	W332C , 59:2, TS 640 36111 kJ/h, 45.4 kW 97 A/175.3 A 1409 rpm MFC 20-105 V1			

Specimen configurations, changes possible

¹⁾ Stronger brake

Range of Geared Machines

Range of gearless machines

Geared machines (freight traction elevator with machine room above the shaft – 4:1 suspension)

4:1

Travel height	25 m
Speed	0,5
Q = 5000 kg F = 5500 kg	TW130 , 45:2, TS 720 18820 kJ/h, 26,3 kW 51 A/60,7 A 1194 1/min, (NBS) MFC 20-60 V1
Q = 5500 kg F = 5000 kg	TW160 , 45:2, TS 640 21639 kJ/h, 27,5 kW 57,2 A/64,7 A 1343 1/min, (NBS) MFC 20-60 V1
Q = 2000 kg F = 2200 kg	TW160 , 45:2, TS 640 10491 kJ/h, 27,5 kW 54,4 A/61,6 A 1343 1/min, (NBS) MFC 20-60 V1

Specimen configurations, changes possible

* 50% load capacity compensation
Machine type, gear ratio, traction sheave Ø [mm]
Heat to be dissip. [kJ/h], motor output [kW] at rpm
Req. motor current [A] / req. starting current [A]
Motor speed [rpm], (NBS possible)
Inverter type.

Q = Load capacity,
F = Car weight max.,
TS = Traction sheave diameter,
NBS = Emergency brake system.

Gearless machines (freight traction elevator with machine room above the shaft – 2:1 suspension)

2:1

Without power regeneration

2:1 suspension

Travel height	80 m			110 m
	1 m/s	1.6 m/s	1.75 m/s	2 m/s
Q = 1600 kg F = 2300 kg	SC 300 M 000 10.7 kW, 87 rpm TS 440, MFC 21-32 V1	SC 300 M 002 14.9 kW, 139 rpm TS 440, MFC 21-48 V1	SC 300 M 002 16.3 kW, 152 rpm TS 440, MFC 21-48 V1	SC 300 M 005 18.2 kW, 174 rpm TS 440, MFC 21-48 V1
Q = 2000 kg F = 2500 kg	SC 400 S 001 11.2 kW, 68 rpm TS 560, MFC 21-48 V1	SC 400 S 001 17.2 kW, 109 rpm TS 560, MFC 21-60 V1	SC 400 S 001 18.8 kW, 119 rpm TS 560, MFC 21-60 V1	SC 400 S 007 21.6 kW, 136 rpm TS 560, MFC 21-105 V1
Q = 2500 kg F = 2800 kg	SC 400 M 008 13.3 kW, 68 rpm TS 560, MFC 21-60 V1	SC 400 M 008 21.3 kW, 109 rpm TS 560, MFC 21-105 V1	SC 400 M 012 23.3 kW, 119 rpm TS 560, MFC 21-105 V1	SC 400 M 009 26.8 kW, 136 rpm TS 560, MFC 21-105 V1

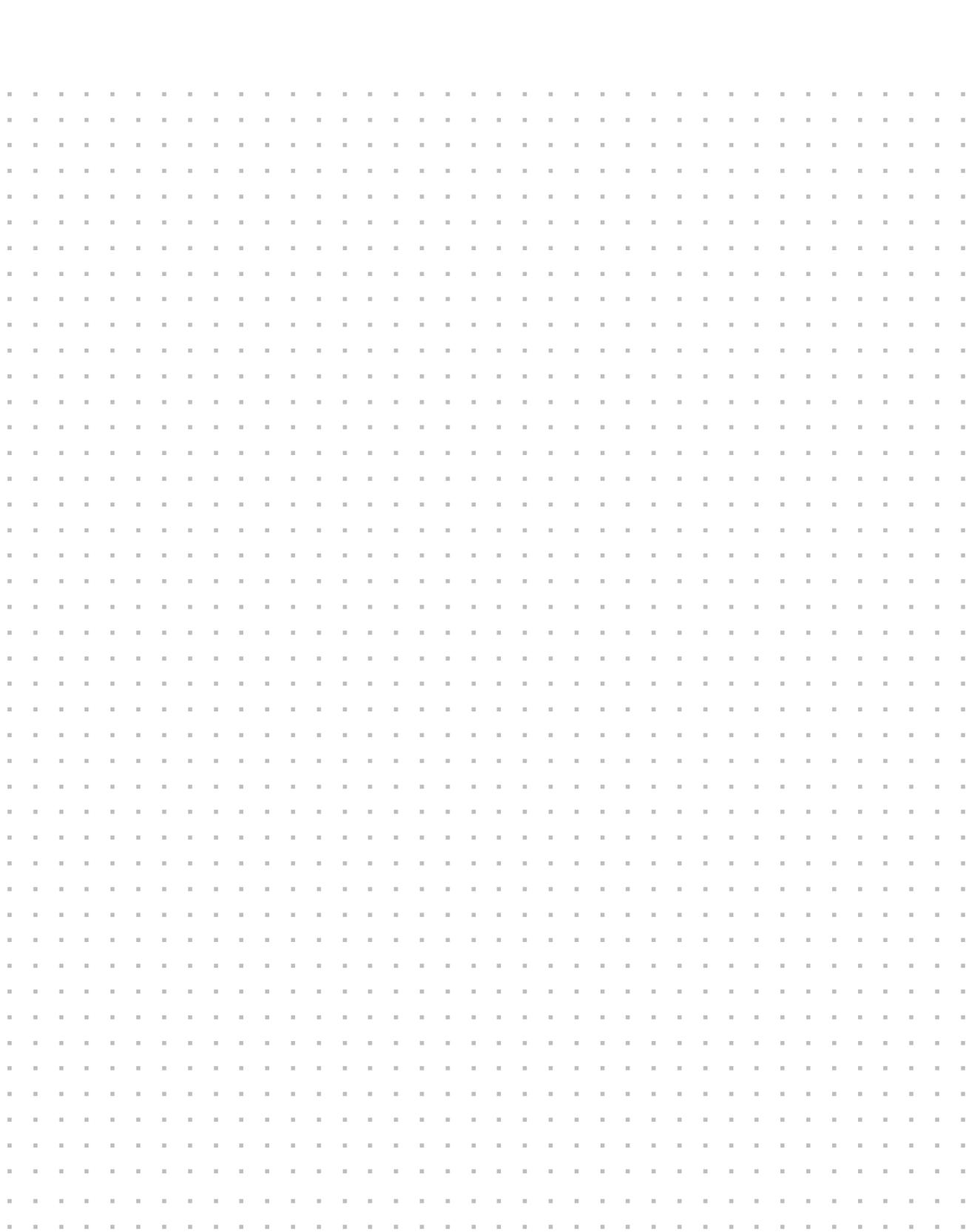
Q = Load capacity, F = Car weight max., TS = Traction sheave diameter.
COMPACT gearless with 1:1 suspension on request.

With power regeneration

2:1 suspension

Travel height	80 m		110 m
	1.6 m/s	1.75 m/s	2 m/s
Q = 1600 kg F = 2300 kg	SC 300 M 001 15.3 kW, 139 rpm TS 440, MFC 21-50R V3	SC 300 M 001 16.7 kW, 152 rpm TS 440, MFC 21-50R V3	SC 300 M 001 18.2 kW, 174 rpm TS 440, MFC 21-50R V3
Q = 2000 kg F = 2500 kg	SC 400 S 004 17.9 kW, 109 rpm TS 560, MFC 21-100R V3	SC 400 S 004 18.5 kW, 119 rpm TS 560, MFC 21-100R V3	SC 400 S 004 21.3 kW, 136 rpm TS 560, MFC 21-100R V3
Q = 2500 kg F = 2800 kg	SC 400 M 011 21.3 kW, 109 rpm TS 560, MFC 21-100R V3	SC 400 M 011 21.3 kW, 109 rpm TS 560, MFC 21-100R V3	SC 400 M 011 21.3 kW, 109 rpm TS 560, MFC 21-100R V3

Q = Load capacity, F = Car weight max., TS = Traction sheave diameter.
COMPACT gearless with 1:1 suspension on request.



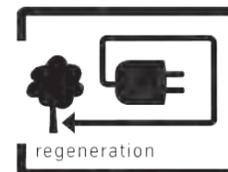
On the latest stage of technology

The LEA® Family complies already with the new elevator standard EN 81-20/-50. So you are technically on the safe side. From 01.09.2017 all new lifts must comply with the new standard.



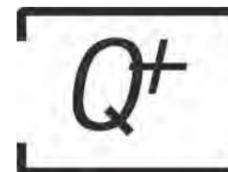
Reducing energy consumption

This well balanced system and LED lighting option enables the LEA® Family to make an obvious contribution to reducing regular operating costs and CO₂ emissions.



Energy recovery

The deployment of the MFR frequency inverter with integrated power regeneration can further enhance the overall efficiency of the installation. By taking account of the usage category in accordance with VDI 4707, energy efficiency class "A" can be achieved.



Technology with a secure future

Quality Made by "LiftEquip": on a level with international standards and appreciated worldwide. The main components drive, inverter and doors (S8A/K8A) are made in Germany.



Low-noise ride quality

The deployment of our high-quality and perfectly balanced components makes LEA® Family a very quiet and comfortable elevator system.



Environmentally friendly production

Throughout the production of the LEA® Family, we ensure that the environment is protected.

Component catalog

Our traditional core business is in the sale of high-quality components for passenger and freight elevators.

Our entire range of products is described in detail in the overall catalogue „Elevator components“, which you can download from our website (www.liftequip.de) and of which we will be glad to send you a printed copy.



Gear drives and gearless drives

With our elevator drives, you can choose between the modern, energy-efficient, gearless drives or the legendary, tried-and-tested gear drives for virtually any range of speed and rated load. We will be glad to advise you here.

A balanced system with matching frequency control, on request with energy recovery, ensures outstanding running performance on every drive.



Safety gear frames and safety technology

Another centrepiece is the safety gear frame in which your elevator car is mounted to insulate it. Our safety technology components are space-saving and easily accessible, integrated in the safety gear frame.

It goes without saying that the comprehensive range of products also includes all the other safety devices such as jaws, governors, buffers etc.

Everything is available at one stop and is perfectly balanced.



Elevator components

Services

Elevator components

Elevator doors

The doors are decisive for the appearance and reliability of every elevator installation. With our door series S8A/K8A, we offer you a range that features elegance, longevity and a comprehensive range of options. Highlights are the glass version or the concealed sill guide.



Design lighting

If design, saving energy and the well-being of users are important to you, we recommend our LED lighting ceilings. These are a real highlight both for new installations and modernisations.



Solutions for modernisation

We have developed very special solutions for the modernisation of existing elevator systems. Variable in dimensions, our compact and highly modern drives can be easily adapted to almost any circumstances. With a modification, you reliably bring your installation up to date with regard to safety, comfort and energy consumption.

The **LEMoS**® elevator car is a very variable and extremely installation-friendly modernisation solution that supplements our range of products impressively.



For such a sophisticated and long-term investment as an elevator, we offer not only the product itself but also a comprehensive range of services. We assure you: you always get our full support!



Consulting and telephone hotline

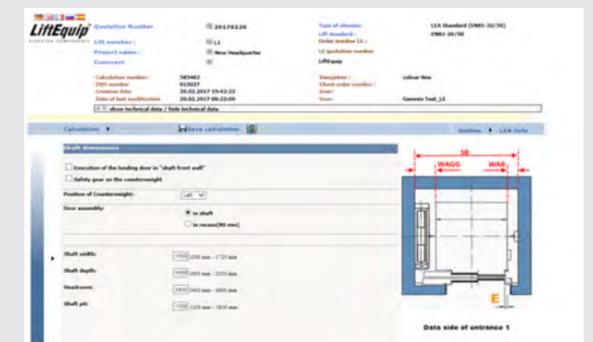
In a personal discussion, we are glad to advise you on the telephone or on site, naturally also in your many foreign languages. Together we find the optimal solution for your use case. Our aim at all times is to work with you to create an elevator system with optimised technology and economy. For our MFC and MFR frequency inverters, we offer you a special service hotline (+49 (0)172 735 20 20) which is, of course, free of charge.

Costing and configuration program LEKalk 3.0 and Genesis

Our configuration program contains all of our experience from theory and practice. The relevant criteria are queried to ensure a reliable selection of products and construction sizes. Alongside the performance data such as rated load and speed, the handling capacity has a decisive influence. In the case of complete systems, the program Genesis deliver you planning data, the general arrangement drawing and the complete documentation that you require for registration and approval of the elevator system. The programs are available 24/7. This gives you the freedom to calculate your project around the clock. For individual access to this system, please contact us.



LEKalk 3.0



Genesis

Services

Services

Services

Training Academy LE Centre

We place high value on our range of training services for our product and system, which we continuously adapt and expand. These are offered to you in our training academy in Neuhausen, but we will be glad to come to your site on request. The focal points include the MFC and MFR inverters, installation training courses for our **LEA**® elevator systems and clarification of the interfaces to the control systems available on the market.



From documentation to on-site support

For each product, you receive detailed documentation with all technical details, connection values, installation instructions and many valuable tips. The safe and error-free installation of the products is our number one priority. Should you ever need on-site support, we will send one of our specialists directly to you and your elevator as quickly as possible.



Engineering services

On request, you also offer you engineering services for the planning of elevator systems: configuration and selection of components, creation of the general arrangement drawing. This enables you to circumvent capacity bottlenecks or make use of additional areas of competence.



BASIC SAFETY PRACTICES FOR LIFTS



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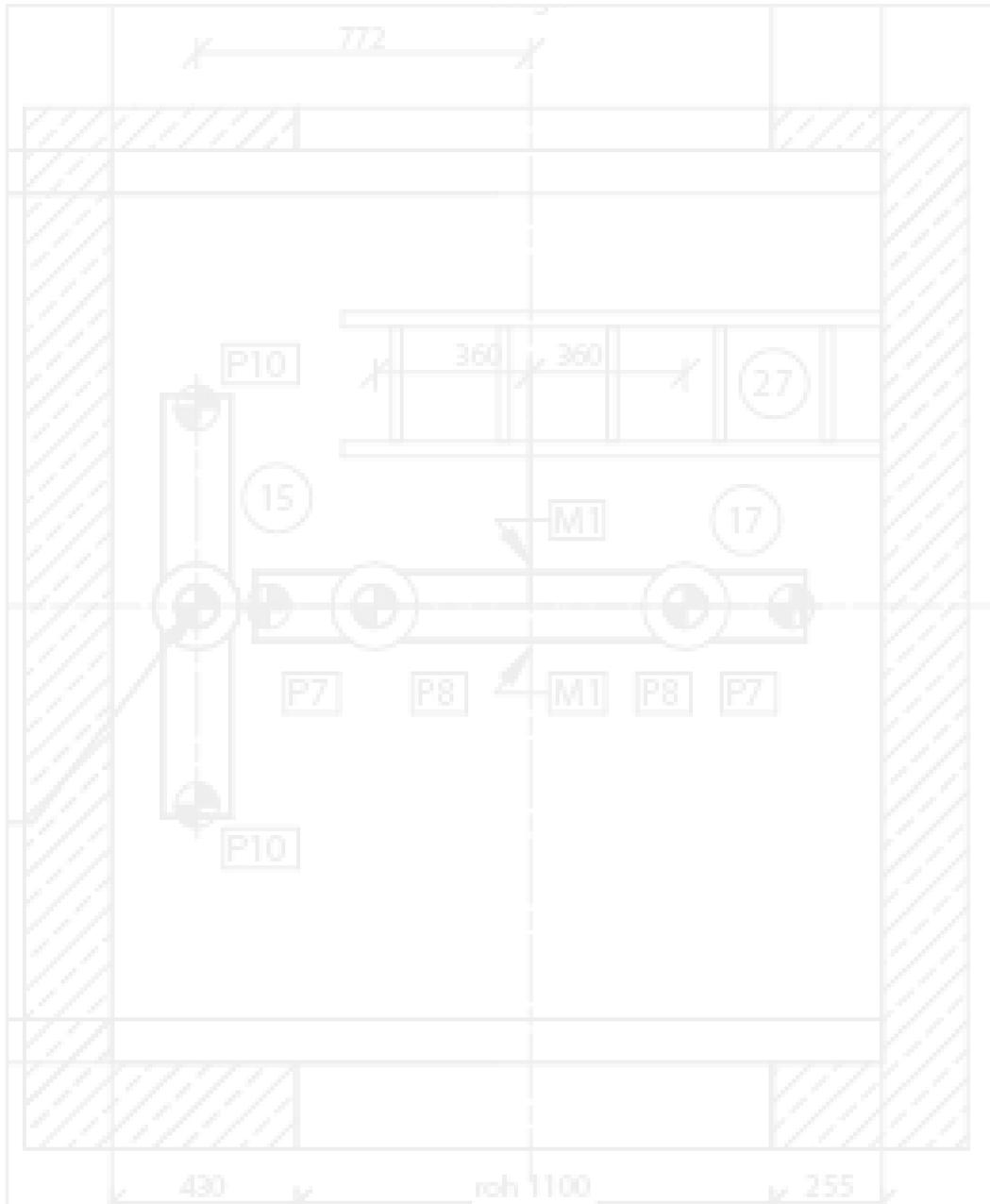
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