# 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

## Flexible

**Variable and functional**

Flexible dimensions for medium travel heights.
Available with many equipment variants.

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 – 1.650 kg
Travel height: 100 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

## Home

**Personal and individual**

The Gulliver and Orion home lift, in accordance with 2006/42/EC, up to 5 landings, over 70 platform variants and design options.

Travel height: 15 m | Speed: 0.15 m/s

# System Description and Advantages



## 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.

## 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 head-room 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.

## 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.

## 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 $CO_2$ 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.

# Technical Overview



## 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 | No | 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 | 2710 |
| Shaft depth door in recess (NECD15) | [mm] | 1580 | 1715 | 1870 | 2415 | 2570 |
| Shaft depth door on landing (NECD15) (not available with glass door) | [mm] | 1550 | 1685 | 1810 | 2385 | 2510 |
| Shaft depth door in shaft (S8A) | [mm] | 1655 | 1790 | 2020 | 2490 | 2720 |
| Shaft depth door in recess (S8A) | [mm] | 1600 | 1735 | 1910 | 2435 | 2610 |
| 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 | No | 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 | 2630 |
| Shaft depth door in recess (S8A) | [mm] | 1595 | 1730 | 1900 | 2430 | 2600 |
| 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

The door model „NECD15/EDO15“ is used in the standard. The door model „S8A/K8A“ is only used if the requirements are not covered by the „NECD15/EDO15“, for example in the case of door type M2Z, with DW = 1000 mm, DH = 2300 mm, with glass doors and if special options or fi re resistance tests are requested.

| Door model | „NECD15/EDO15“ | „S8A/K8A“ (optional) |
|---|---|---|
| Special advantages | • Economical solution for many common applications<br>• Installation with shaft front wall possible<br>• Telescopic sliding door (M2T)<br>• Door heights 2000 / 2100 mm; door widths 800 / 900 mm<br>• Fire protection safety certificate E120 / EW60 according to EN 81-58, shaft wall EW30 | • High-quality, elegant and efficient door series<br>• Robust and reliable, even under challenging application conditions<br>• Extensive range of fire protection certifications and many options<br>• Telescopic door (M2T) and central door (M2Z), glass door available<br>• Door heights 2000 / 2100 / 2300 mm; door widths 800 / 900 / 1000 mm |

# Technical Details



## Technical and electric data

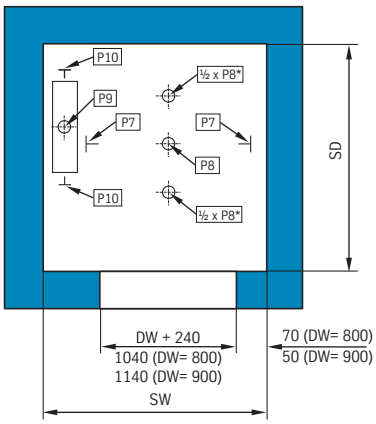
| Rated load | Q | [kg] | 450 | | 630 | | 1000 |
|---|---|---|---|---|---|---|---|
| Synchronous gearless machine | type | | PMC125-S | PMC145-2S [1] | PMC125 M | PMC145-2M [1] | PMC145-2L |
| Frequency controller (V3F) | type | | MFC 21/15 | | MFC 21/15 | | MFC 21/15 |
| with energy recovery (optional) | 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.

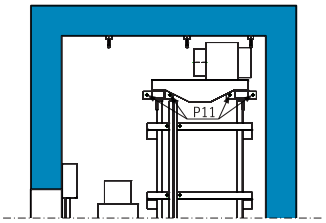
## Specified loads in the shaft pit

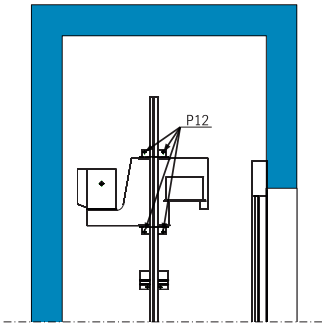
| Rated load | Q | [kg] | 450 | 630 | 1000 |
|---|---|---|---|---|---|
| Load points / elevator car guide rails | P7 | [kN] | 16 | 20 | 29 |
| Load points / elevator car buffer | P8 | [kN] | 48 | 59 | 86 |
| Load points / counterweight buffer | P9 | [kN] | 37 | 44 | 62 |
| Load points / counterweight 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.

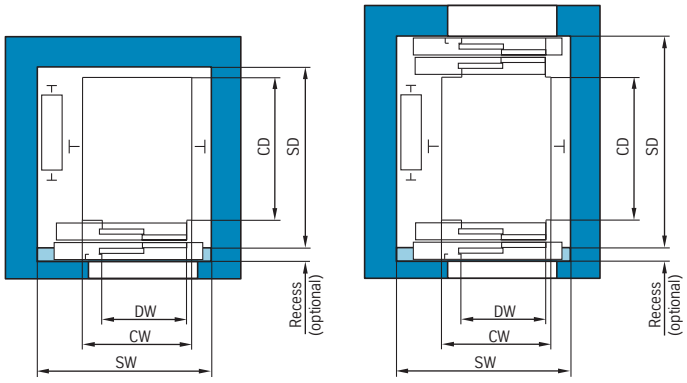



## Machine base frame forces

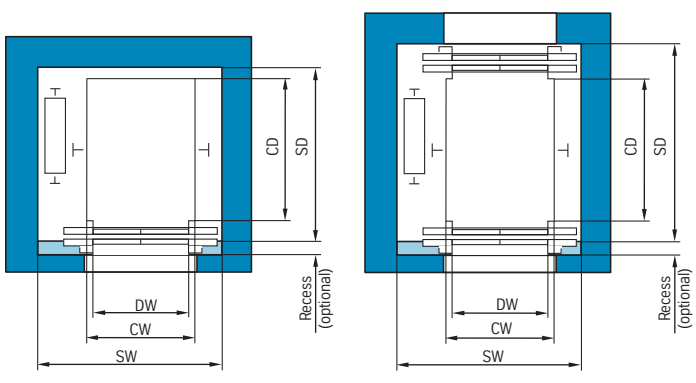



## Shaft layout with side-opening door (M2T)




## Shaft layout with central opening door (M2Z)



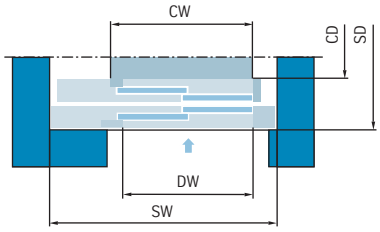

Shaft layout is also possible as mirror-inverted, with position of the counterweight on the opposite shaft side.

# Technical Details



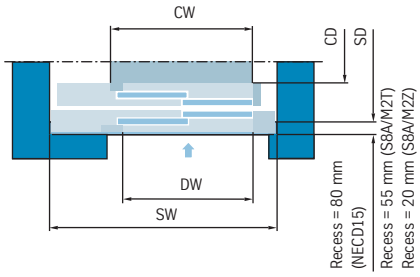
## Door installed in shaft

The landing doors are fastened to the shaft wall by means of brackets and drill fixings. Door type S8A 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.



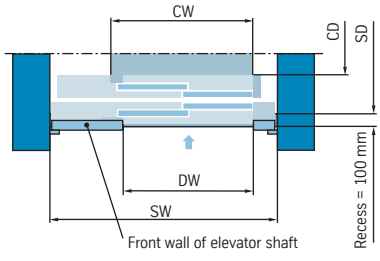

## Door installation in recess

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.

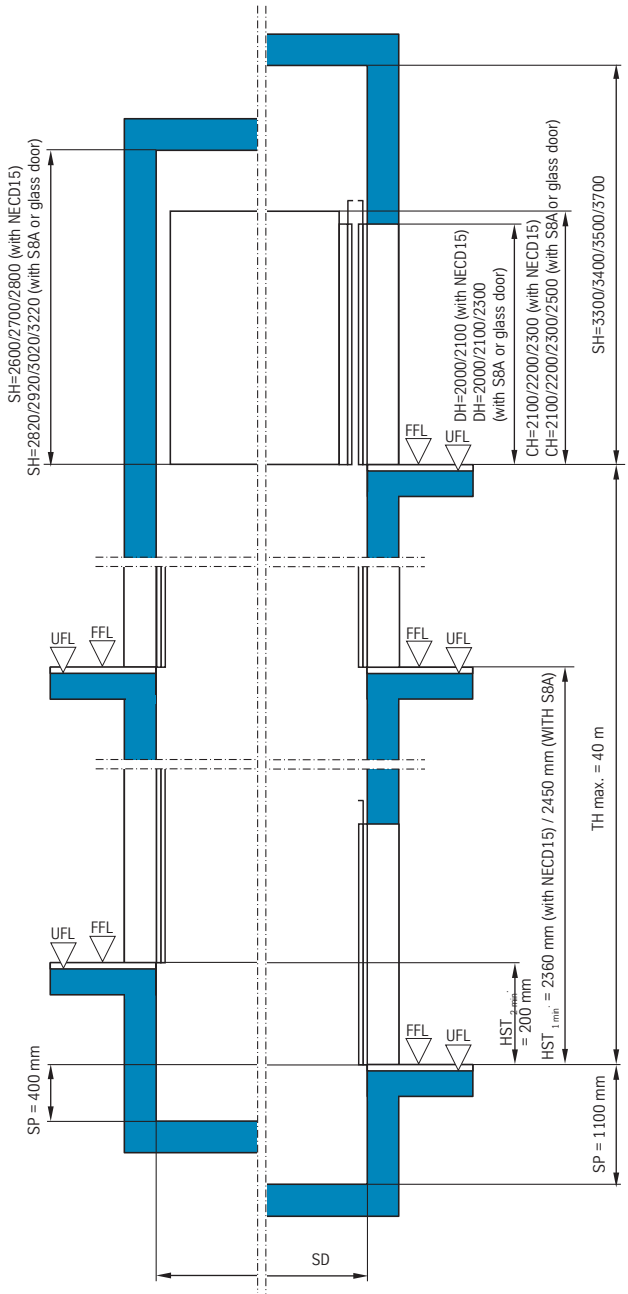



DH - door height
DW - door width
CH - car height
CW - car width
CD - car depth
SW - shaft width
SD - shaft depth
TH - travel height
HST - floor-to-floor-distance
SH - shaft headroom
SP - shaft pit depth
FFL - finished floor level
UFL - unfinished floor level

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

(only available with telescopic door)

## Shaft vertical section with or conventional headroom and conventional pit depth




**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



## Equipment features of the design lines

### Colours / materials

#### Available colours

colour-line

Electrolytically galvanised



Traffic White (RAL 9016 powdered Sheet Metal)

White Aluminium (RAL 9006 powdered Sheet Metal)



Sandey Yellow (powdered Sheet Metal)

Pastel Grey (powdered Sheet Metal)

stainless-line

Stainless Steel, grain 220, Ground and Brushed

Stainless Steel Linen

Stainless Steel Leather

### False ceilings and lighting



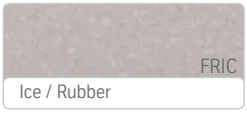
SlimLED
(175 x 175 mm, lighting directly on car ceiling (standard)

Spot
(LED lighting possible, optional in stainless steel)

Constellation
(LED lighting possible, optional in stainless steel)

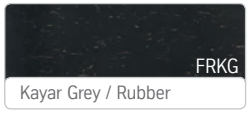
Domino
(LED lighting possible, optional in stainless steel)

### Flooring material

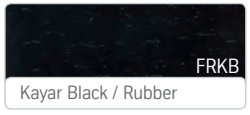



Ice / Rubber

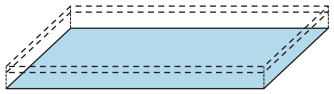

Dove Grey / Vinyl




Kayar Grey / Rubber




Kayar Black / Rubber

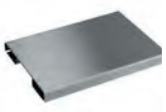


Without flooring material – lowered by 3.5 or 25 mm for customer-fitted flooring material

### Handrails

Stainless Steel Hairline
(ferritic, type 304), Ø 40 mm
Curved ends
(acc. to EN 81-70)

### Bumber rails



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

Wood
120 x 30 mm

PVC
127 x 27 mm

### Skirting

Aluminium
Surface brushed and polished, design grain 220, height 50 mm

### Mirror

On rear wall of car, with aluminium strips

### Glass rear wall

In Stainless Steel, frame profile with aluminium

### Glass door

Glass door panels with frame (only with S8A/K8A)

# Car Design



## Elevator cars

colour-line

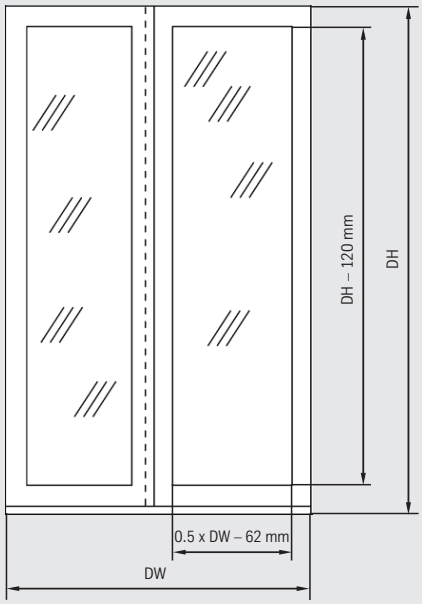
stainless-line

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

# Main Components



## Gearless machine

PMC145-2

PMC125

### Gearless PMC125 resp. PMC145

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
- 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 31

MFR (optional)

### 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

### 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

## Doors

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

### Door Type NECD15 and/or EDO15

**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

### Door Type S8A/K8A (optional)

**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

# Scope of Supply and Planning Information



## 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

* "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.

## 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)

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.

# Performance Programme and Options



## 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 EI120 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), smoth paint [NECD15] | ● | ○ |
| Stainless steel Hairline (austenitic, type 304)* / Linen / Leather / Diamond [S8A] | ○/○/○/○ | ●/○/○/○ |
| Powder coated traffic white (RAL 9016) / white alu. (RAL 9006) / mouse grey (RAL 7005) [S8A] - textured paint [5] | ○/○/● | ○/○/○ |
| 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.

# Performance Programme and Options



## 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] | ● | ○ |
| Primed (RAL 7042), smooth paint | [EDO15] | ● | ○ |
| Powder coated traffic white (RAL 9016) / white aluminium (RAL 9006), textured paint [1] | | ○ / ○ | |
| Stainless steel Hairline (austenitic, type 304)* | [EDO] / [K8A] | ○ / ○ | ● / ● |
| Stainless steel Linen | [EDO] / [K8A] | ○ / ○ | |
| Stainless steel Leather | [EDO] / [K8A] | ○ / ○ | |
| Stainless steel Diamond | [K8A] | ○ | |
| Car opening panel | | | |
| Electrolytically galvanised / traffic white (RAL9016) / white alu. (RAL9006) , textured paint [1] | | ● / ○ / ○ | ○ / ○ / ○ |
| Stainless steel Hairline (austenitic, type 304)* / Linen / Elephant Skin / Diamond | [K8A] | ○ / ○ / ○ / ○ | ● / ○ / ○ / ○ |
| Aluminium door sill | | ● | |
| Mechanical car door locking, acc. to EN 81-20/50 | [EDO] / [K8A] | ● / ○ | |
| | | | |
| **Elevator car equipment** | | | |
| Wall panels | | | |
| Electrolytically galvanised | | ● | ○ |
| Powder coated Traffic White (RAL 9016) / White Aluminium (RAL 9006) | | ○ / ○ | – |
| Stainless Steel, grain 220 / Linen / Elephant Skin | | – | ● / ○ / ○ |
| Car ceiling in Traffic White / in stainless steel | | ● / ○ | |
| Elevator car lighting | | | |
| Spot / Constellation / Domino | | ○ / ○ / ● | |
| SlimLED PANEL [2] / 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.

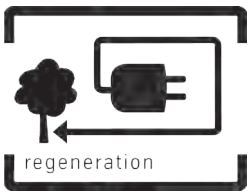
[1] Does not apply to EDO15 with RAL 9006, as in this case smooth paint is deployed.
[2] on request


### On the latest stage of technology

The LEA® Standard 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.

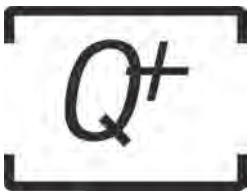

### Reducing energy consumption

This well balanced system and LED lighting option enables LEA® Standard to make an obvious
contribution to reducing regular operating costs and $CO_2$ 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 make LEA® Standard
a very quiet and comfortable elevator system.


### Environmentally friendly production

Throughout the production of LEA® Standard, we ensure that the environment is protected.