Elevator Technology

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Elevator Technology

Evolution1

Proven MRL Performance

thyssenkrupp

thyssenkrupp moves people – the future of urban mobility.

In 40 short years, we've become one of the world's leading elevator companies with unique engineering capabilities, offering next-generation solutions like MULTI, the ropeless elevator, ACCEL, an accelerated people mover, and MAX, a cloud-based predictive maintenance service. Whether building a new state-of-the-art system or optimizing and modernizing existing ones, our solutions deliver crucial energy and time efficiencies, helping to address the challenges of urbanization and transform cities into the best places to live.

Customers in **150** countries	**Over 900** sales and service locations	Sales of **€ 7.5 billion**	**50,000+** employees

A trusted partner

We support our customers throughout their project lifecycle, from the design to the end-of-life phase. Every step of the way, we strive to fully understand their needs and consistently deliver the safest, highest quality passenger transportation solutions, maintenance and modernization packages.

Through our internal technical support function, ITS (International Technical Services), thyssenkrupp trains its service technicians in a multibrand portfolio, enabling them to successfully service more than 1.2 million units under maintenance.

thyssenkrupp – the diversified industrial group

engineering.tomorrow.together – three words that describe who we are, what we do, and how we do it. Driven by global megatrends such as urbanization and the need for efficient use of environmental resources, our global community of more than 150,000 colleagues works together with our customers to harness our engineering expertise and strive for technological and business solutions that satisfy the demand for "more" in a "better" way.

Find out more: **www.thyssenkrupp.com**

One World Trade Center

Makkah Clock Tower / Source © SL Rasch

We provide smart and innovative products for a wide variety of applications:

- Passenger and freight elevators
- Escalators and moving walks
- Passenger boarding bridges
- Stair and platform lifts
- Customized service and modernization solutions

thyssenkrupp Quartier

Mercedes Benz

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thyssenkrupp Elevator Australia

Established in 1996 following the acquisition of City Elevator, thyssenkrupp (Australia) installs, maintains and modernizes elevators and escalators in Australia and New Zealand. We have a strong presence in various segments, such as office, education and hospital. We are committed to working together to make cities the best places to live.

Evolution1

Proven MRL performance

Being a machine room-less (MRL) elevator, Evolution1 is ideal for mid-rise residential and commercial buildings with traffic, such as service elevators in shopping malls where escalators are used as the primary source of transportation.

Designed for

- Commercial buildings
- Mid-rise residential buildings
- Shopping malls

Specification

- Max. travel height: ≤110m
- Max. number of floors: ≤32
- Rated speed: ≤2.0m/s
- Rated load: ≤1600kg
- Group control: 8

Proven MRL performance

Ride comfort

Sturdy car design, use of noise-reducing materials, and high precision motor system guarantee ride comfort.

Safe and reliable

Stringent product design based on thyssenkrupp German standards ensures highest degree of passenger safety.

Comfort and aesthetic design

Embrace aesthetic car interior design and comfort.

Ride comfort

- **Patented thyssenkrupp technology ensures a smooth ride.**
  The independent suspension system keeps the car balanced. No additional acting force is required between the guide shoes and the rail, reducing friction and noise.

  Hard-wearing polymer guide shoe lining with low coefficient of friction for a smooth ride and enhanced passenger comfort.

- **Continuous car load measurements ensure seamless braking and acceleration.**
  A special weighing sensor continuously measures the car load and sends a signal to the control system to ensure a smooth ride.

- **Vibration isolation prevents vibrations from reaching the car interior.**
  Rubber anti-vibration pad between the crosshead sheave and upper beam prevents vibrations on the sheave from affecting the car interior.

  Moving anti-vibration pad between the car and the bottom of the car frame reduces noise and increases ride comfort.

Safe and reliable

thyssenkrupp based on its stringent German product design and safety standards is a trusted brand in the industry. thyssenkrupp is committed to ensuring the highest degree of passenger safety.

- **Training**
  Our technicians are trained to work to the highest safety standards and adhere to stringent safety rules. thyssenkrupp's TEAMService and SEED Campus, the thyssenkrupp Elevator training institution, assures that our team is continuously and systematically trained to deliver the services you depend on.

- **Solutions**
  Our unique field operations system, VIEW, stores every elevator's service history, enabling us to see the performance of the units in real time, and monitor the leading indicators that optimize equipment availability.

- **Design**
  Stringent global product design standards and cutting-edge technology ensure the highest levels of passenger safety.

Installation

thyssenkrupp's reputation for customer-centric solutions has come about through our focus on providing solutions to design, select and install people transportation systems for a wide variety of buildings.

- **Systematic project management**
  Utilize mobility devices to provide real-time project management and reporting to ensure timely installation.
- **Professional installation**
  Utilize vigorous process to select installation teams. Staff are graded on 7 levels. Installation teams are regularly trained and put through stringent tests to qualify them on proven methodology.
- **Comprehensive quality control system**
  In-process checks and quality assurance to ensure qualitative and safe installation

Service

At thyssenkrupp, we are consistently committed to responding to customers' requests in a highly responsive, punctual and timely manner. Driven by a global service strategy, our business operating model contributes to all aspects of customer service satisfaction.

We adopt a proactive approach to go beyond our customers' expectations by providing tailored-made solutions to meet their needs. We strive to protect your investment by delivering a systematic service program of which is smart, stress-free and systematic.

- **Prescriptive maintenance**
  Offered through a variety of service agreements that insure a consistent, proactive, and predictable process which you can rely on. Our team is trained to eliminate maintenance problems.
- **Smart tools**
  Our network of engineers is well-equipped with intelligent tools to keep passengers moving.
- **Skilled team**
  Every engineer is very well-trained to deliver quality work on time.

Comfort and aesthetic design

Evolution1 embraces comfort and aesthetic.

Comfort and aesthetic throughout your building

Designed for mid-to-high-end residential and commercial buildings, Evolution1's inspiring car interiors are designed with the building segment in mind. The feeling of comfort will continue from the lobby interior, into the elevator and therefor throughout the entire building.

Car interior

CS1-GE

Standard

Ceiling	RF-CL1S (Powder coated steel - RAL1015)
Side Wall	Powder coated steel - RAL1015
Rear Wall	Powder coated steel - RAL1015
Front Wall	Powder coated steel - RAL1015
Floor	PVC Floor - TCD314
Handrail	-

CS2-GE

Option

Ceiling	RF-CL1S (Powder coated steel - RAL7035)
Side Wall	Powder coated steel - RAL7035
Rear Wall	Powder coated steel - RAL7035
Front Wall	Hairline stainless steel - RAL7035
Floor	PVC Floor - CFL010
Handrail	-

Actual colours of the product may vary from the printed brochure.
The render is produced based on the specifications of the 1,000Kg load car,
thus the renderings of other specifications may vary from this one.

Car interior

CS3-GEA

Option

Ceiling	RF-CL1S (Powder coated steel - RAL7035)
Side Wall	Hairline stainless steel
Rear Wall	Hairline stainless steel
Front Wall	Hairline stainless steel
Floor	PVC Patterned - PF001 (TCD319, TCD314)
Handrail	-

CL1-GE

Option

Ceiling	Starlight (Powder coated steel - RAL1015)
Side Wall	Powder coated steel - RAL1015
Rear Wall	Powder coated steel - RAL1015
Front Wall	Powder coated steel - RAL1015
Floor	PVC Floor - CFL008
Handrail	-

Actual colours of the product may vary from the printed brochure.
The render is produced based on the specifications of the 1,000Kg load car, thus the renderings of other specifications may vary from this one.

Car interior

CL2-GE

Option

Ceiling	Starlight (Powder coated steel - RAL7035)
Side Wall	Powder coated steel - RAL7035
Rear Wall	Mirror stainless steel
Front Wall	Powder coated steel - RAL7035 Mirror stainless steel
Floor	Powder coated steel - RAL7035
Handrail	-

CL3-GE

Option

Ceiling	Starlight (Hairline stainless steel)
Side Wall	Hairline stainless steel
Rear Wall	Hairline stainless steel
Front Wall	Hairline stainless steel
Floor	PVC Patterned - PF002 (CFL008, CFL006)
Handrail	-

Actual colours of the product may vary from the printed brochure.
The render is produced based on the specifications of the 1,000Kg load car, thus the renderings of other specifications may vary from this one.

Car Operating Panel (COP)

Standard	1
Type	COP S-A01
Indicator	Red dot matrix
Button	MT42

Optional	2
Type	COP S-B01
Indicator	Red dot matrix
Button	AN170

Optional	3
Type	COP S-A02
Indicator	5.7” Blue-white segment LCD
Button	MT42

Optional	4
Type	COP S-B02
Indicator	5.7" Blue-white segment LCD
Button	MT42

1. COP S-A01 2. COP S-B01 3. COP S-A02 4. COP S-B02

All thyssenkrupp products shipped on or after 1 October, 2016 will feature the new logo.
Products shipped before this date will continue to use the old logo.
Actual colours of the product may vary from the printed brochure.
Due to the differences of the floor configurations and functions, the design of the operating panel may differ slightly.

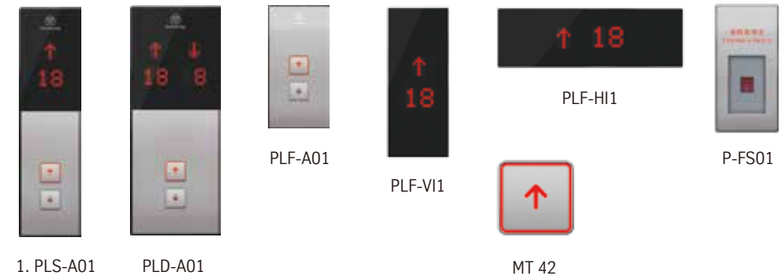
Landing operating panel (LOP)

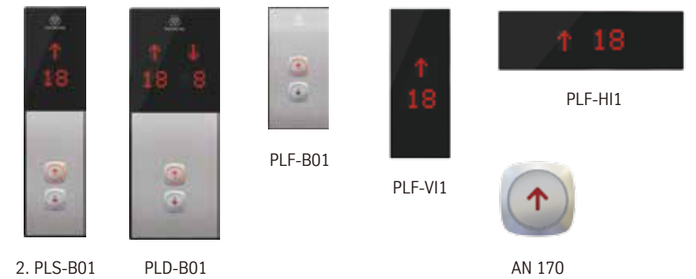
Standard	1
Indicator	Red dot matrix
Button	MT42
Firemen's switch	P-FS01

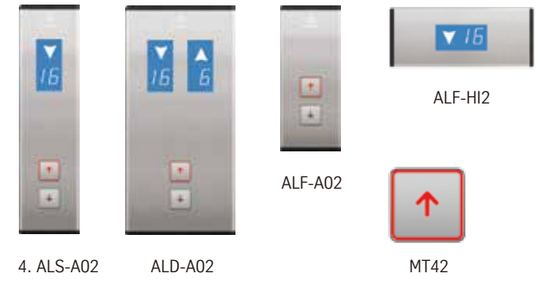
Optional	2
Indicator	Red dot matrix
Button	AN170

Optional	3
Indicator	4.3” Blue-white segment LCD
Button	AN170
Firemen's switch	A-FS01

Optional	4
Indicator	4.3” Blue-white segment LCD
Button	MT42







Function list

Evolution1

Category	No.	Function	Standard / Optional
Enhanced Car Functions	1	Door reopen by following landing call at same landing	S
	2	Collective selective control	S
	3	Full-load non-stop	S
	4	Onward travel to the next stop in the case of a non-opening door	S
	5	Anti-nuisance“limit number of car call when empty load”	S
	6	Anti-nuisance “car call cancellation at terminal landing”	S
	7	Anti-nuisance “car call deletion opposite to travel direction”	S
	8	Adjustable waiting time for opening door at the main landing	S
	9	Adjustable speed and torque of door operator	S
	10	Re-leveling	S
	11	Energy saving operation for car light and fan	S
	12	Elevator start-up loading weighting compensation function	S
	13	In advance door open	O
	14	Changing fire landing	O
	15	Changing parking landing	O
	16	Changing main landing	O
	17	Main landing return	O
Safety and Emergency Functions	18	Prevents unintended movement of elevator cab	S
	19	Landing to the nearest floor in case of problem (eg. motor overheat, car position missing)	S
	20	Fire emergency return (FER)	S
	21	Alarm button & Intercom button	S
	22	Emergency car lighting	S
	23	Overload protect	S
	24	Repeat door closing in the event of lock failure	S
	25	Safety curtain for door	S
	26	Door overload protect	S
	27	Parking (by key switch)	S
	28	Phase failure and phase reversal protection	S
	29	Lockable main switch integrated for controller cabinet	S
	30	Emergency electrical operation	S
	31	Inspection operation	S
	32	Traction machine overheat supervision	S
	33	Traction machine skidding protection	S
	34	Prepared fire emergency return signal	S
	35	Restrict the opening of the car door inside the car	S
	36	Brake Torque Detection Function	S

Note: S – Standard O – Optional

Function list

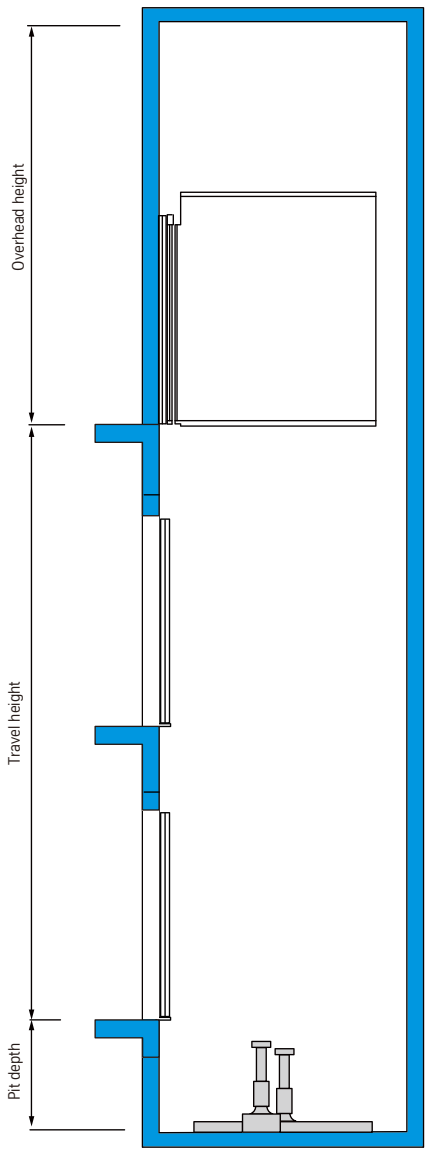
Evolution1

Category	No.	Function	Standard / Optional
Safety and Emergency Functions	37	Emergency power operation (generator by customer)	S
	38	Main COP attendance	O
	39	Fireman service	O
	40	Door lock bypass function	O
	41	Automatic rescue operation	O
	42	Earthquake function (sensors by customer)	O
	43	Earthquake function (incl. sensors)	O
Trip Functions	44	Top of car emergency exit	O
	45	Automatic doors	S
	46	Collective fault signal	S
	47	Operation counting (trip and hour)	S
Human Machine Interface	48	Car priority	O
	49	Door close button	S
	50	Door open button	S
	51	Car call cancellation (by double press)	S
	52	Landing indicator of dot-matrix (red)	S
	53	Car indicator of dot-matrix (red)	S
	54	Landing indicator of 4.3”blue-white segment LCD	O
	55	Car indicator of 5.7" blue-white segment LCD	O
	56	Car arrival alarm	O
	57	Second COP (excl. car attendant and intercom)	O
	58	COP for disabled persons (no indicator, braille push buttons as standard)	O
Monitoring and Tele-service	59	Intercom system	S
	60	Traveling cable (incl. video transmission function)	O
	61	BAS interface function (dry contactor signal)	O
	62	Color video camera (in car)	O
	63	Remote monitor interfacing (excl. MH2 board)	O
	64	Remote monitor interfacing (incl. MH2 board, without modem)	O
	65	Supervision panel (cable by other, cable length<=150m)	O
	66	Build automation interfacing (RS232, MM board)	O
	67	Build automation interfacing (RS485, MMC board)	O
Group / Duplex Control	68	Group control (max 8 units)	O
	69	Automatically allocate lower load elevator to response landing call in group	O
	70	Continued group / duplex operation in case of failure of the other elevator	O
	71	Taking units out of group (timer / switch)	O

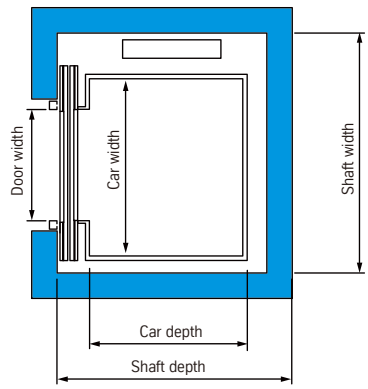
Note: S – Standard O – Optional

Layout

Shaft vertical section



Lift plan



According to the elevator construction specification, the elevator shaft horizontal size is the minimum clearance by plumbing, and the allowed deviation as follows:				
Shaft height	SH≤30m	30m<SH≤60m	60m<SH≤90m	90m<SH≤125m
Permitted deviation	0~+25mm	0~+35mm	0~+50mm	0~+80mm

Technical specifications (counter weight at side)

Evolution1

Rated Load (kg)	Rated Speed (m/s)	Max. Travel Height (m)	Max. Number of Floors	Center Opening Door Size (DW x DH)(mm)	Car Size (CW x CD x HD)(mm)	Shaft Size (SW x SD)(mm)
630	1.0 1.5 1.6 1.75	50 75 75 90	17 26 26 31	800 x 2100	1100 x 1400 x 2400	1825x 1800
800	1.0 1.5 1.6 1.75 2.0	50 75 75 90 110	17 26 26 31 32	800 x 2100	1350 x 1400 x 2400	2050 x 1800
1000	1.0 1.5 1.6 1.75 2.0	50 75 75 90 110	17 26 26 31 32	900 x 2100	1600 x 1400 x 2400	2300 x 1800
1150	1.0 1.5 1.6 1.75 2.0	50 75 75 90 110	17 26 26 31 32	1100 x 2100	1800 x 1400 x 2400	2600 x 1800
1250	1.0 1.5 1.6 1.75 2.0	50 75 75 90 110	17 26 26 31 32	1100 x 2100	2000 x 1450 x 2400	2750 x 2050
1350	1.0 1.5 1.6 1.75 2.0	50 75 75 90 110	17 26 26 31 32	1100 x 2100	2000 x 1550 x 2400	2750 x 2050
1600	1.0 1.5 1.6 1.75 2.0	50 75 75 90 110	17 26 26 31 32	1100 x 2100	2000 x 1750 x 2400	2750 x 2250

Min. Overhead height & Min. Pit depth

Rated Speed	Min. Overhead Height (mm)			Min. Pit Depth (mm)			
(m/s)	630kg	800-1150kg	1250-1600kg	630kg	800-1000kg	1150kg	1250-1600kg
1.0	3850	3850	4200	1300	1300	1200	1550
1.5	4000	4000	4350	1450	1450	1450	1550
1.6	4000	4000	4350	1450	1450	1450	1600
1.75	4050	4050	4450	1550	1550	1550	1750
2.0	/	4250	4450	/	1600	1600	1750