

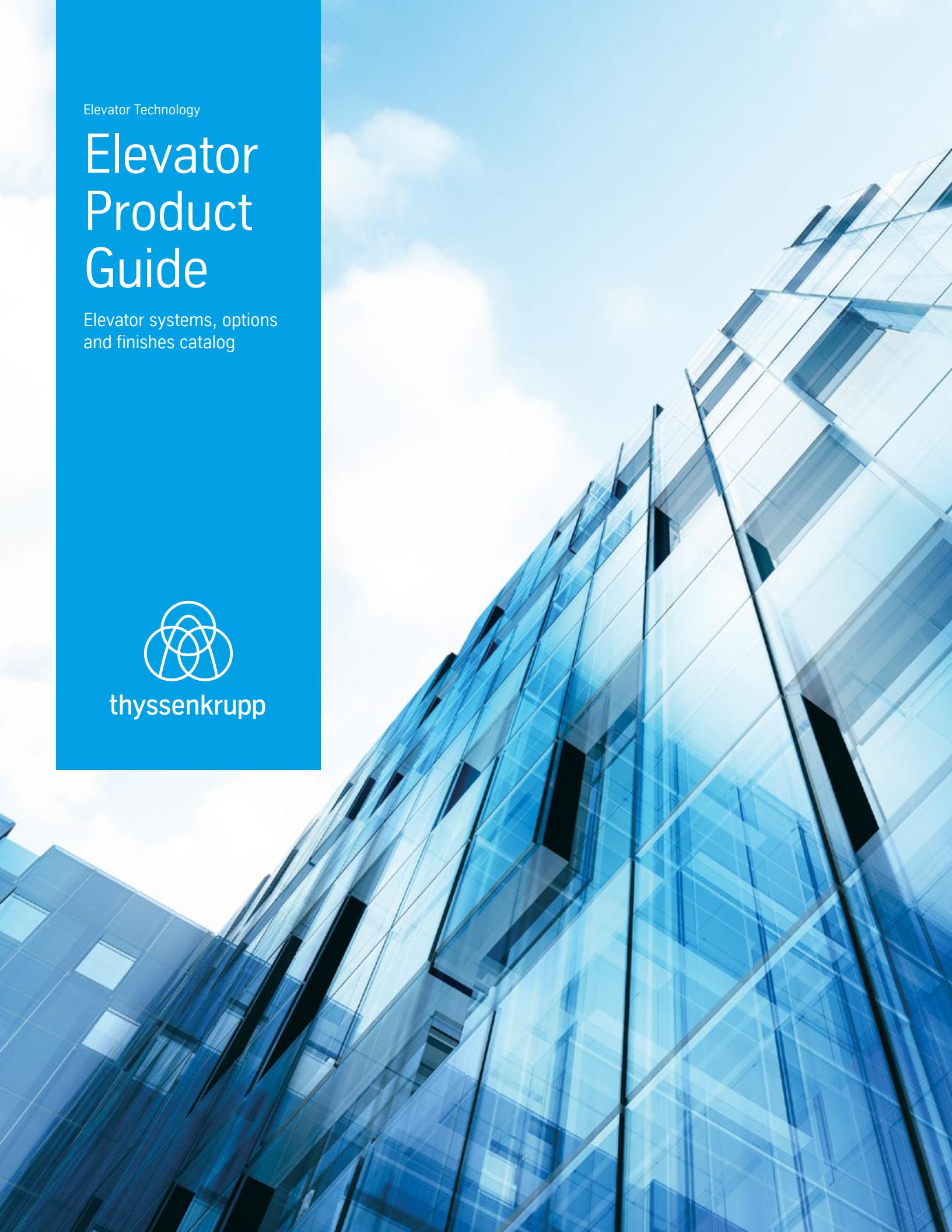
Elevator Technology

# Elevator Product Guide

Elevator systems, options  
and finishes catalog



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.



Figures for our Elevator Technology business

## 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, International Technical Services Americas, 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 156,000 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](http://www.thyssenkrupp.com)

View from 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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Reliable.  
Dependable.  
Powerful.

## Low-rise hydraulic elevators

Cost-effective, capable hydraulics get the job done, whether you are moving a few or even thousands of people each day.

Small offices, shops, schools, worship facilities and hotels up to four stories need sensible options in elevators. The uncomplicated design of the hydraulic elevator uses fewer moving parts to lift heavy loads and keeps maintenance costs low. And you don't have to sacrifice building space or sustainability. Our hydraulic elevators use environmentally-safe fluids and we even make an innovative elevator that fits entirely in the hoistway.

**Save thousands.**  
Low maintenance costs saves tens of thousands spent over an elevator's 25-year life span.

**Interior quality.**  
UL-validated, low-emitting materials exceed stringent indoor air quality standards.

You can choose enviromax, a product with the Platinum Material Health Certificate.

 Speeds up to 200 fpm

 Capacities up to 5000 pounds





**endura MRL**  
Machine room-less

**endura**  
Above-ground

**endura**  
Below-ground

**Machine room**  
and controllers

08  
10  
12  
14



Hydraulic machine room-less

# endura MRL

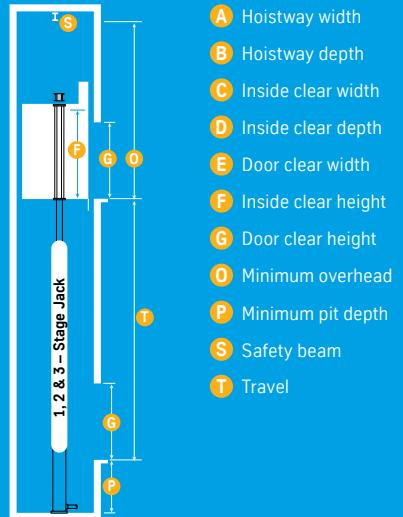
## Twinpost above-ground

Jack types	Travel	Speed	Capacity
1-Stage	12'-8" <sup>1</sup>	80, 110, 150 fpm	2100–4000 lbs
2-Stage	23'-2½" <sup>1</sup>	80, 110, 150 fpm	2100–4000 lbs
3-Stage	33'-6½" <sup>1</sup>	80, 100, 125, 150 fpm	2100–4000 lbs

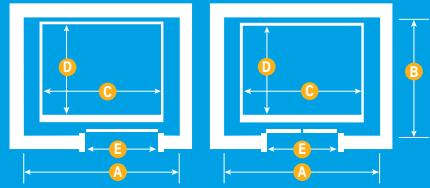
 Click jack type for specific product specs



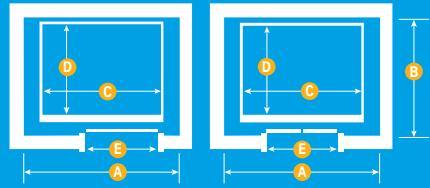
## Front opening (F)



One-speed side opening doors



One-speed center opening doors



Passenger	1- and 2-Stage		3-Stage			
	Capacity (lbs)	Hoistway <sup>2,7</sup> A x B	Hoistway <sup>7</sup> A x B	Front/rear	Inside clear C x D	Door type
2100 <sup>3</sup>	7'-4" x 5'-9"	7'-8" x 5'-9"	F	5'-8" x 4'-3"	One-speed	3'-0"
2100 <sup>3</sup>	7'-4" x 6'-8¾"	7'-8" x 6'-8¾"	F/R	5'-8" x 4'-3½"	One-speed	3'-0"
2500	8'-4" x 5'-9"	8'-8" x 5'-9"	F	6'-8" x 4'-3"	One-speed	3'-6"
2500	8'-4" x 6'-8¾"	8'-8" x 6'-8¾"	F/R	6'-8" x 4'-3½"	One-speed	3'-6"
3000	8'-4" x 6'-3"	8'-8" x 6'-3"	F	6'-8" x 4'-9"	One-speed	3'-6"
3000	8'-4" x 7'-2¾"	8'-8" x 7'-2¾"	F/R	6'-8" x 4'-9½"	One-speed	3'-6"
3500 <sup>4</sup>	8'-4" x 6'-11"	8'-8" x 6'-11"	F	6'-8" x 5'-5"	One-speed	3'-6"
3500 <sup>4</sup>	8'-4" x 7'-10¾"	8'-8" x 7'-10¾"	F/R	6'-8" x 5'-5½"	One-speed	3'-6"
4000 <sup>4</sup>	9'-4" x 6'-11"	9'-8" x 6'-11"	F	7'-8" x 5'-5"	One-speed	3'-6"/4'-0"
4000 <sup>4</sup>	9'-4" x 7'-10¾"	9'-8" x 7'-10¾"	F/R	7'-8" x 5'-5½"	One-speed	3'-6"/4'-0"

Dimensional data shown above is for both seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

 Inside clear height: 7'-4" <sup>5</sup>

 Door clear height: 7'-0"

 Minimum pit depth: 4'-0"

 Minimum overhead:

Up to 100 fpm: Over 100 fpm:

1-Stage – 12'-2" 1-Stage – 12'-5"  
2-Stage – 12'-8" 2-Stage – 12'-8"  
3-Stage – 12'-11" 3-Stage – 12'-11"

 Safety beam required per OSHA 1926.502 <sup>6</sup>

 Max travel possible <sup>1</sup>:  
1-Stage:  
Up to 100 fpm – 18'-11"  
Over 100 fpm – 18'-8"  
2-Stage: 28'-6"  
3-Stage: 48'-3½"

<sup>1</sup> A 5'-0" min. pit is required for additional travel. Travel above 13'-8" (1-Stage) or 25'-2½" (2-Stage) or 36'-6½" (3-Stage) requires additional pit and/or overhead by adding 1" for every 1" (1-Stage) or 2" (2-Stage) or 3" (3-Stage) of additional travel. Max increase 2'-0" allowed in overhead.

<sup>2</sup> In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

<sup>3</sup> This capacity is not available with center opening doors.

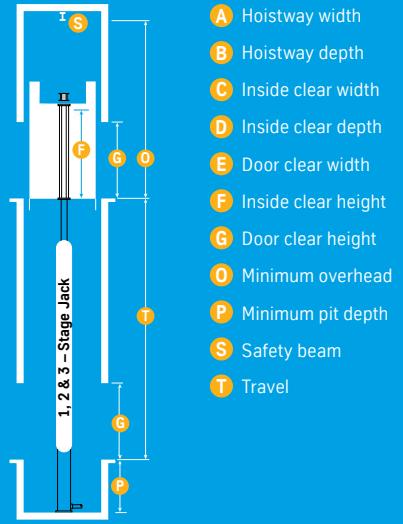
<sup>4</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required. For a 3500 lbs capacity car with front and rear doors, the doors must be in adjacent corners.

<sup>5</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

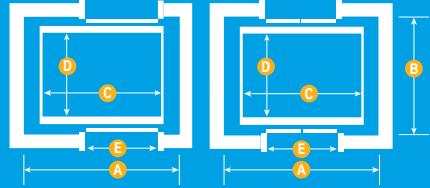
<sup>6</sup> Provided and installed by others, as directed by your thyssenkrupp Elevator representative. Clear overhead is shown to the bottom of the safety beam.

<sup>7</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

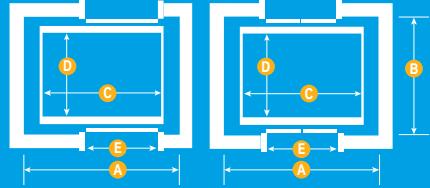
## Front and rear opening (F/R)



One-speed side opening doors

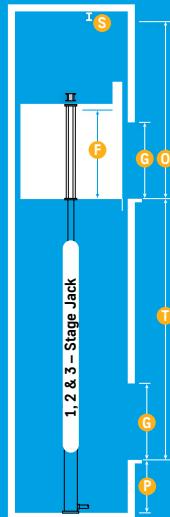


One-speed center opening doors

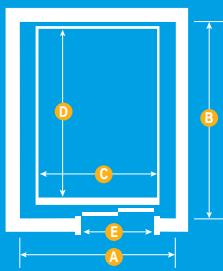


## Front opening (F)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- S** Safety beam
- T** Travel

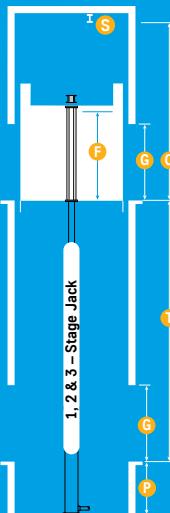


Two-speed side opening doors

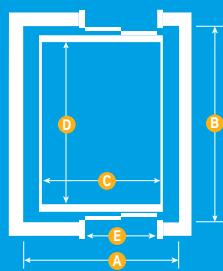


## Front and rear opening (F/R)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- S** Safety beam
- T** Travel



Two-speed side opening doors



Hydraulic machine room-less

# endura MRL

## Twinpost above-ground

Jack types	Travel	Speed	Capacity
1 Stage	12'-8" <sup>1</sup>	80, 110, 150 fpm	4500–5000 lbs
2 Stage	23'-2½" <sup>1</sup>	80, 110, 150 fpm	4500–5000 lbs
3 Stage	33'-6½" <sup>1</sup>	80, 100, 125, 150 fpm	4500–5000 lbs

Click jack type for specific product specs

Service	1- and 2-Stage		3-Stage			
	Capacity (lbs)	Hoistway <sup>2,6</sup> A x B	Hoistway <sup>6</sup> A x B	Front/rear	Inside clear C x D	Door type
4500	7'-4" x 9'-6½"	7'-8" x 9'-6½"	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	7'-4" x 10'-9¼"	7'-8" x 10'-9¼"	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	7'-4" x 10'-2"	7'-8" x 10'-2"	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	7'-4" x 11'-4¾"	7'-8" x 11'-4¾"	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	7'-4" x 10'-9"	7'-8" x 10'-9"	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	7'-4" x 11'-11¾"	7'-8" x 11'-11¾"	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Dimensional data shown above is for both seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-4"<sup>4</sup>

**G** Door clear height: 7'-0"

**P** Minimum pit depth<sup>1</sup>: 4'-0"

**O** Minimum overhead:

Up to 100 fpm: Over 100 fpm:

1-Stage – 12'-2" 1-Stage – 12'-5"

2-Stage – 12'-8" 2-Stage – 12'-8"

3-Stage – 12'-11" 3-Stage – 12'-11"

**S** Safety beam required per OSHA 1926.502<sup>5</sup>

**T** Max travel possible:  
1-Stage:  
Up to 100 fpm – 18'-11"  
Over 100 fpm – 18'-8"

2-Stage: 28'-6"

3-Stage: 48'-3½"

<sup>1</sup> A 5'-0" min. pit is required for additional travel. Travel above 13'-8" (1-Stage) or 25'-2½" (2-Stage) or 36'-6½" (3-Stage) requires additional pit and/or overhead by adding 1" for every 1" (1-Stage) or 2" (2-Stage) or 3" (3-Stage) of additional travel. Max increase 2'-0" allowed in overhead. (For 4500 and 5000 lbs capacities, max additional travel and speed could be reduced based on cab weights. Consult your thyssenkrupp Elevator representative for details.)

<sup>2</sup> In areas where a 7' deep pit ladder is required, additional hoistway width or wall pocket will be required.

<sup>3</sup> With optional 4'-6" two-speed side opening door, hoistway width becomes 8'-2".

<sup>4</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>5</sup> Provided and installed by others, as directed by your thyssenkrupp Elevator representative. Clear overhead is shown to the bottom of the safety beam.

<sup>6</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

Hydraulic with machine room

# endura

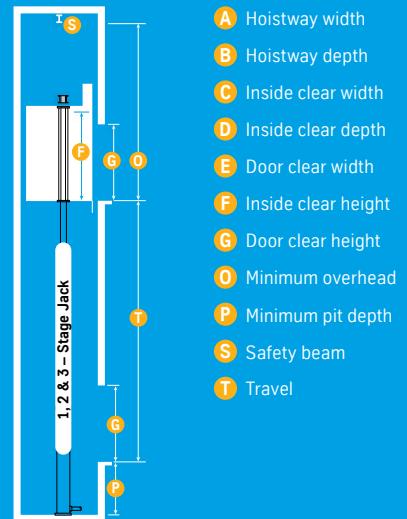
## Twinpost above-ground

Jack types	Travel	Speed	Capacity
1-Stage	12'-8" <sup>1</sup>	80, 110, 150 fpm	2100–4000 lbs
2-Stage	23'-2½" <sup>1</sup>	80, 110, 150 fpm	2100–4000 lbs
3-Stage	33'-6½" <sup>1</sup>	80, 100, 125, 150 fpm	2100–4000 lbs

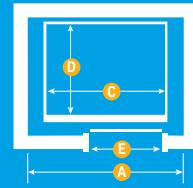
 Click jack type for specific product specs



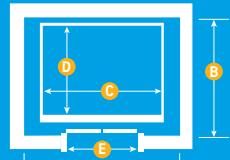
## Front opening (F)



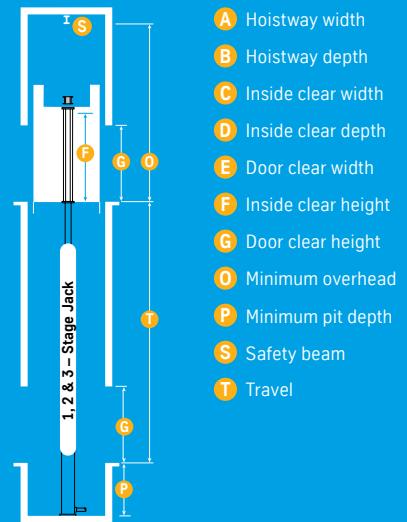
One-speed side opening doors



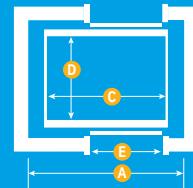
One-speed center opening doors



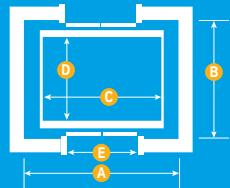
## Front and rear opening (F/R)



One-speed side opening doors



One-speed center opening doors



Dimensional data shown above is for both seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

 Inside clear height: 7'-4" <sup>5</sup>

 Door clear height: 7'-0"

 Minimum pit depth: 4'-0"

 Minimum overhead:

Up to 100 fpm: Over 100 fpm:

1-Stage – 12'-2" 1-Stage – 12'-5"  
2-Stage – 12'-8" 2-Stage – 12'-8"  
3-Stage – 12'-11" 3-Stage – 12'-11"

 Safety beam required per OSHA 1926.502 <sup>6</sup>

 Max travel possible <sup>1</sup>:  
1-Stage:

Up to 100 fpm – 18'-11"  
Over 100 fpm – 18'-8"  
2-Stage: 28'-6"  
3-Stage: 48'-3½"

<sup>1</sup> Max travel possible in note T (above) is obtained by adding 1" of overhead/pit for every 1" (1-Stage) or 2" (2-Stage) or 3" (3-Stage) of net travel over the standard. Max 2'-0" allowed in overhead.

<sup>2</sup> In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

<sup>3</sup> This capacity is not available with center opening doors.

<sup>4</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required.

<sup>5</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

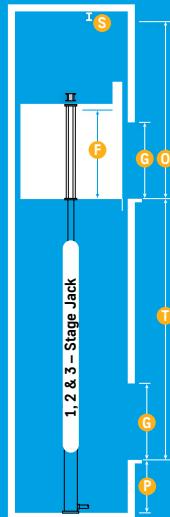
<sup>6</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>7</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

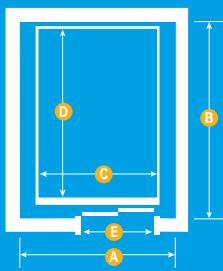
\* Refer to page 14 for elevator machine room sizes.

## Front opening (F)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Inside clear height
- F** Door clear width
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- S** Safety beam
- T** Travel

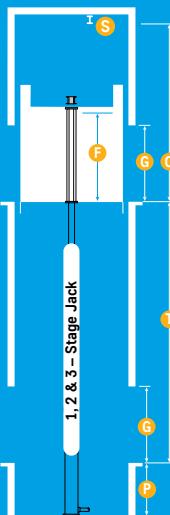


Two-speed side opening doors

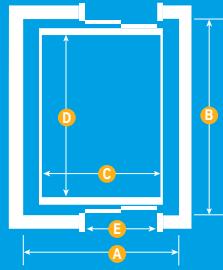


## Front and rear opening (F/R)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- S** Safety beam
- T** Travel



Two-speed side opening doors



Hydraulic with machine room

# endura

## Twinpost above-ground

Jack types	Travel	Speed	Capacity
1-Stage	12'-8" <sup>1</sup>	80, 110, 150 fpm	4500–5000 lbs
2-Stage	23'-2½" <sup>1</sup>	80, 110, 150 fpm	4500–5000 lbs
3-Stage	33'-6½" <sup>1</sup>	80, 100, 125, 150 fpm	4500–5000 lbs

Click jack type for specific product specs

Service	1- and 2-Stage		3-Stage			
	Capacity (lbs)	Hoistway <sup>2,5</sup> A x B	Hoistway <sup>5</sup> A x B	Front/Rear	Inside clear C x D	Door type
4500	7'-4" x 9'-6½"	7'-8" x 9'-6½"	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	7'-4" x 10'-9¼"	7'-8" x 10'-9¼"	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	7'-4" x 10'-2"	7'-8" x 10'-2"	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	7'-4" x 11'-4¾"	7'-8" x 11'-4¾"	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	7'-4" x 10'-9"	7'-8" x 10'-9"	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	7'-4" x 11'-11¾"	7'-8" x 11'-11¾"	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Dimensional data shown above is for both seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-4" <sup>3</sup>

**G** Door clear height: 7'-0"

**P** Minimum pit depth: 4'-0"

**O** Minimum overhead:

Up to 100 fpm: Over 100 fpm:

1-Stage – 12'-2" 1-Stage – 12'-5"

2-Stage – 12'-8" 2-Stage – 12'-8"

3-Stage – 12'-11" 3-Stage – 12'-11"

**S** Safety beam required per OSHA 1926.502<sup>4</sup>

**T** Max travel possible <sup>1</sup>:  
1-Stage:  
Up to 100 fpm – 18'-11"  
Over 100 fpm – 18'-8"

2-Stage: 28'-6"

3-Stage: 48'-3½"

<sup>1</sup> Max travel possible in note T (above) is obtained by adding 1" of overhead/pit for every 1" (1-Stage) or 2" (2-Stage) or 3" (3-Stage) of net travel over the standard. Max 2'-0" allowed in overhead. (For 4500 and 5000 lbs capacities, max additional travel and speed could be reduced based on cab weights. Contact your local thyssenkrupp office for details.)

<sup>2</sup> With optional 4'-6" two-speed side opening door, hoistway width becomes 8'-2".

<sup>3</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>4</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Clear overhead is shown to the bottom of the safety beam.

<sup>5</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

\* Refer to page 14 for elevator machine room sizes.

Hydraulic with machine room

# endura

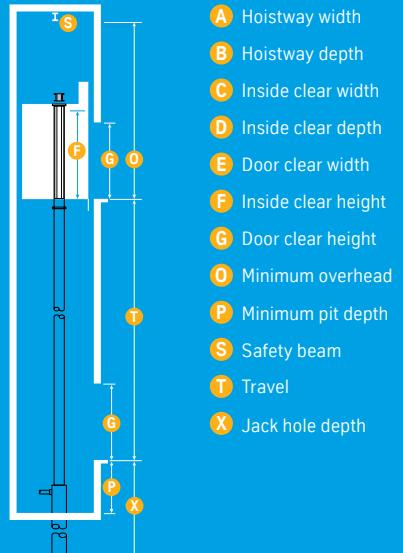
## Below-ground

Jack types	Travel	Speed	Capacity
Conventional	60'-0"	80, 100, 125, 150, 175, 200 fpm	2100–4000 lbs

 Click jack type for specific product specs

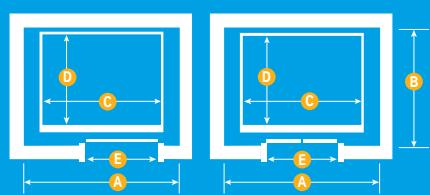


## Front opening (F)

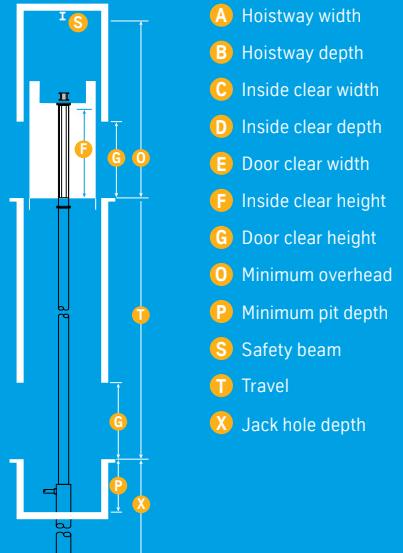


One-speed side opening doors

One-speed center opening doors

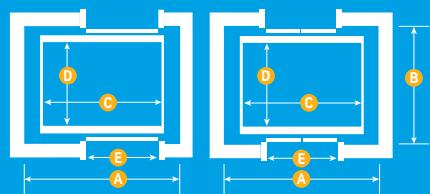


## Front and rear opening (F/R)



One-speed side opening doors

One-speed center opening doors



Dimensional data shown above is for both seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

 Inside clear height: 7'-4" <sup>4</sup>

 Door clear height: 7'-0"

 Minimum overhead:  
Up to 100 fpm – 12'-0"  
Over 100 fpm – 12'-3"

 Minimum pit depth: 4'-0"

 Safety beam required  
per OSHA 1926.502 <sup>5</sup>

 Standard jack hole depth:  
Travel + 6'-0"

<sup>1</sup> In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

<sup>2</sup> This capacity is not available with center opening doors.

<sup>3</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required.

<sup>4</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

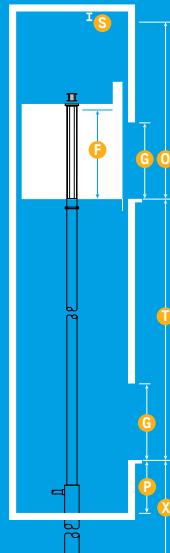
<sup>5</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>6</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

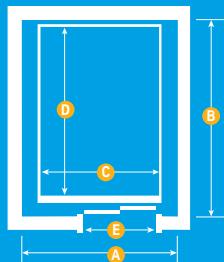
\* Refer to page 14 for elevator machine room sizes.

## Front opening (F)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- H** Minimum overhead
- I** Minimum pit depth
- J** Safety beam
- K** Travel
- X** Jack hole depth

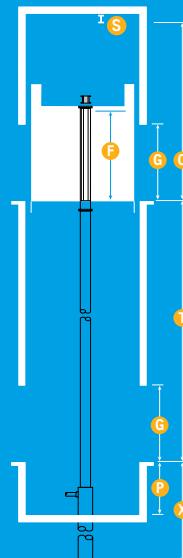


Two-speed side opening doors

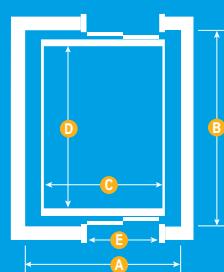


## Front and rear opening (F/R)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- H** Minimum overhead
- I** Minimum pit depth
- J** Safety beam
- K** Travel
- X** Jack hole depth



Two-speed side opening doors



Hydraulic with machine room

# endura

## Below-ground

Jack types	Travel	Speed	Capacity
Conventional	60'-0"	80, 100, 125, 150, 175, 200 fpm	4500-5000 lbs

Click jack type for specific product specs

### Service elevator

Capacity (lbs)	Hoistway <sup>1,5</sup> A x B	Front/rear	Inside clear C x D	Door type	Door width <sup>2</sup> E
4500	7'-4" x 9'-6½"	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	7'-4" x 10'-9¼"	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	7'-4" x 10'-2"	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	7'-4" x 11'-4¾"	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	7'-4" x 10'-9"	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	7'-4" x 11'-11¾"	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Dimensional data shown above is for both seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-4" <sup>3</sup>

**G** Door clear height: 7'-0"

**H** Minimum overhead: Up to 100 fpm – 12'-0" Over 100 fpm – 12'-3"

**P** Minimum pit depth: 4'-0"

**S** Safety beam required per OSHA 1926.502 <sup>4</sup>

**X** Standard jack hole depth: Travel + 6'-0"

<sup>1</sup> In areas where a 7" deep pit ladder is required, additional hoistway width or wall pocket will be required.

<sup>2</sup> With optional 4'-6" two-speed side opening door, hoistway width becomes 8'-2".

<sup>3</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>4</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>5</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

\* Refer to page 14 for elevator machine room sizes.

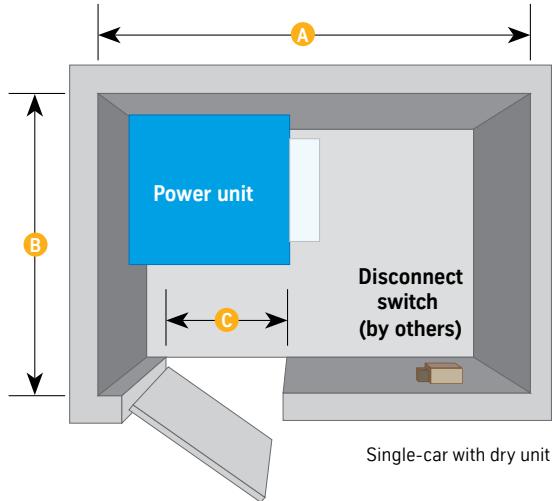
Machine room

# Hydraulic elevator machine rooms

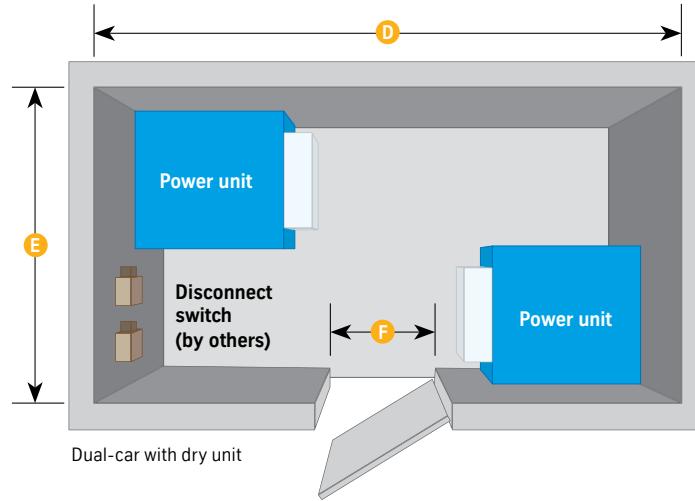
Your endura system determines the machine room you'll need.\*

The most desirable controller closet location is on the lowest floor served, adjacent to the elevator hoistway. At an additional cost, the machine room can be located remotely from hoistway.

## Single-car configurations



## Dual-car configurations



Smaller machine rooms available in some cases.  
Consult your thyssenkrupp Elevator representative if needed.

Single-car					
Power unit	A	B	C <sup>1</sup>	Door height	Room height
Submersible (large)	7'-2"	7'-1½"	4'-0"	Min 7'-0"	Min 7'-6"
Dry (large)	9'-10"	5'-6"	4'-0"	Min 7'-0"	Min 7'-6"

Dual-car					
Power unit	D	E	F <sup>1</sup>	Door height	Room height
Submersible (large)	10'-5½"	10'-5½"	4'-0"	Min 7'-0"	Min 7'-6"
Dry (large)	14'-7"	7'-0¾"	4'-0"	Min 7'-0"	Min 7'-6"

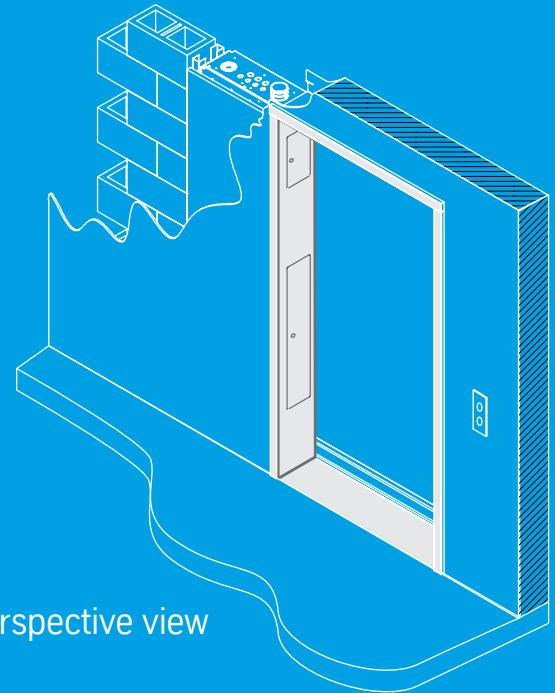
<sup>1</sup> Clear opening.

\* Consult your thyssenkrupp Elevator representative to help determine your needs, as machine room arrangements may vary from those shown.

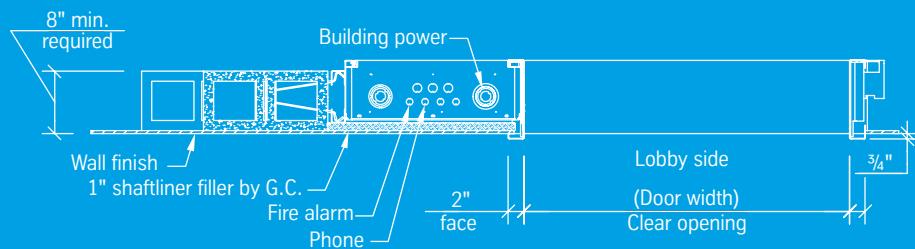
# Hydraulic MRL controller details

## endura MRL controller

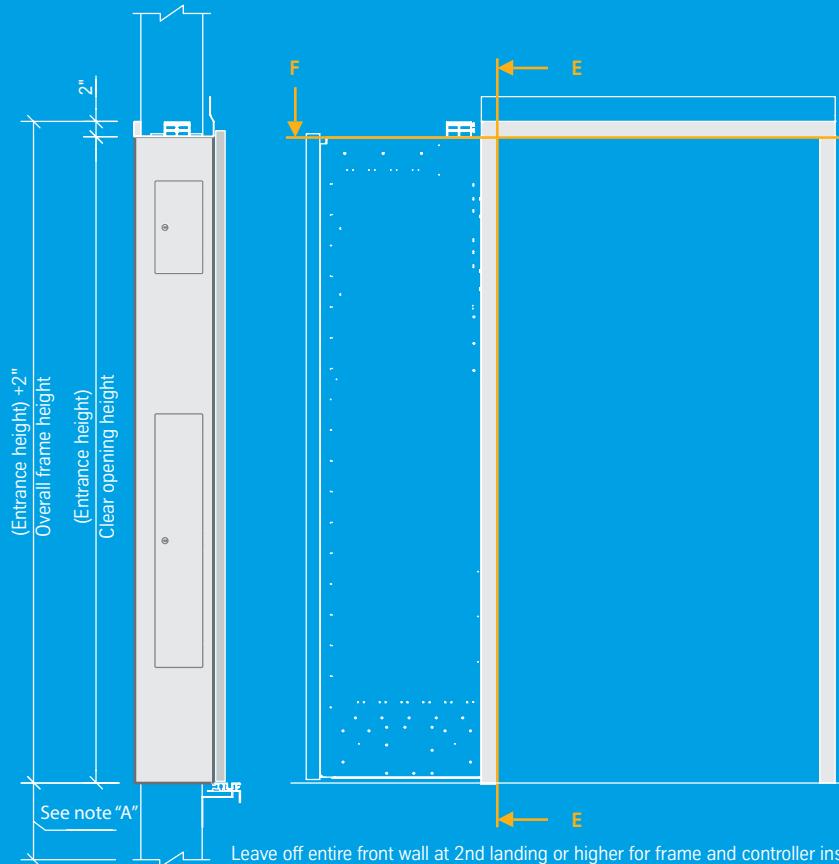
Our endura MRL is designed to maximize space because the controller is in the elevator entrance jamb. As a result, we require a minimum 8" actual wall thickness at the floor where the controller will be located. The wall construction can be done with dry wall or masonry block. For installation purposes, however, the entire wall at the controller level must be left out until the elevator frame and controller are in place. The controller must be located at the landing directly above the lowest landing served by the elevator. If that is not possible, the location must be coordinated with your thyssenkrupp Elevator representative.



Entrance plan view  
F-F



Section  
E-E



Controller entrance elevation



# Flexible.

# Efficient.

# Smart.

## Low-rise to mid-rise traction MRL

Traction elevators provide optimal ride quality, faster speeds and expend less time and energy to move people in your building.

Low-rise to mid-rise buildings, up to 35 floors, are ideal for commercial, residential and mixed-use spaces that provide retail space close to where people live and work. So choosing an elevator that is flexible, takes up less space and transports people efficiently is a smart move. Our elevators are available in two configurations, self-supported and building supported. The machine room-less design will save leasable space and features our regenerative drive technology.

### Save space.

Saves up to 120 square feet traditionally used for a machine room.

### Sustainability.

Regenerative drive technology feeds generated power back into the building's grid reducing energy costs.

### Quality interiors.

UL-validated, low-emitting materials exceed stringent indoor air quality standards.

We have disclosed the chemical make-up and earned Health Product Declarations on our standard line of elevator cabs.

 Speeds up to 600 fpm

 Capacities up to 5000 pounds





**evolution 200**

Overview

**18**

**evolution 200**

Self supported

**20**

**synergy**

Self supported

**22**

**synergy**

Building supported

**23**

**Support configurations**

Self supported and building supported

**26**

**Controller closets**

Simplex and duplex

**28**



# Don't compromise. Choose evolution 200.

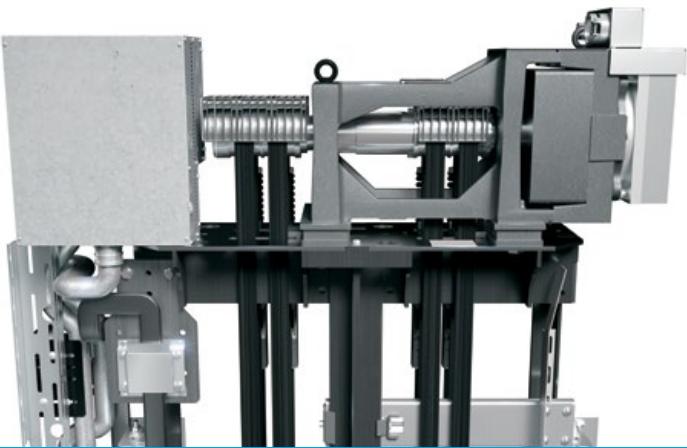
evolution 200 is a low-rise to mid-rise MRL elevator that was developed for you. Whether it's increased speed, capacity or energy efficiency, you finally have an elevator that comes without compromises. You also get special features like regenerative drive and auto-rescue without paying extra. Best of all, everything fits into the hoistway.



Underslung  
Helps evolution offer a smaller hoistway.

- ⊕ **Absolute positioning system**  
Precisely measures your elevator's speed and positioning. This promotes accurate floor stopping, helping ensure passenger safety.





### Machines

Our machines transport elevators up to 600 feet per minute (fpm). There's no machine room, so you have more leasable building space.



### Rail-supported

evolution 200 is supported entirely by its rails, rather than your building.

#### ⊕ Belts and small sheaves

Belts bend better than steel ropes, so sheaves are smaller.

#### ⊕ Gearless system

Improves ride quality while increasing energy efficiency.

#### ⊕ Hoistway

Because evolution 200 uses smaller components, literally everything fits into its hoistway.

#### ⊕ Overhead and pit

These are smaller giving you more leasable building space.



### Controller

fits into a tiny 8-inch door jamb and is fully-digital. Because there aren't loud mechanical contactors, this elevator is extremely quiet.



### Cab

evolution 200 has up to 1500-pound cab weight allowance depending on car configuration. This lets you choose heavy finishes, such as marble, and not slow your elevator.

#### ⊕ Regenerative drive

Captures unused energy and feeds it back into your building grid. Comes standard in evolution 200.

#### ⊕ LED lights

These come standard. You won't have to change your lightbulbs for decades.

#### ⊕ Standby mode

Fans and lights turn off when the elevator is not in use.

Low-rise to mid-rise traction elevators

# evolution 200

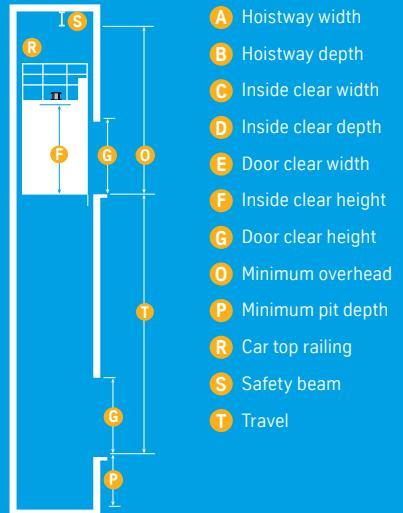
## Self supported

Travel	Speed	Capacity
350'-0"	200–600 fpm	2100–4000 lbs

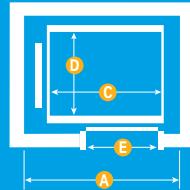
 Click above for specific product specs



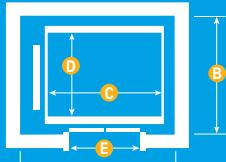
## Front opening (F)



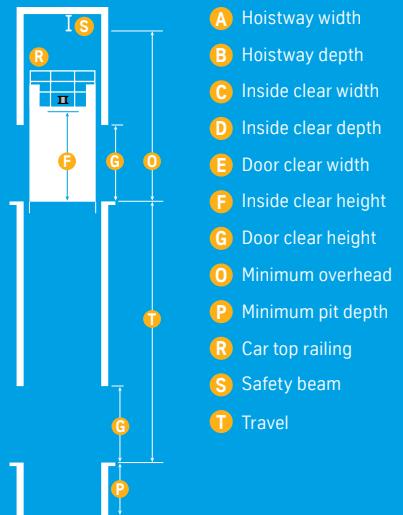
One-speed side opening doors



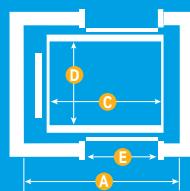
One-speed center opening doors



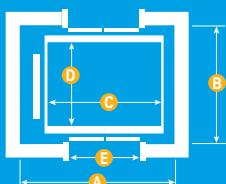
## Front and rear opening (F/R)



One-speed side opening doors



One-speed center opening doors



Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-4" <sup>1</sup>

**G** Door clear height: 7'-0" <sup>9</sup>

**S** 8" safety beam (2" clear above)  
required capable of holding 7500 lbs <sup>6</sup>

**O** Minimum overhead: <sup>5, 6</sup>

200 fpm: 12'-8"

350 fpm: 13'-4"

500 fpm: 13'-11"

600 fpm: 15'-0"

**P** Minimum pit depth: <sup>8, 10</sup>

200 fpm: 5'-0"

350 fpm: 5'-6"

500 fpm: 6'-6"

600 fpm: 7'-2"

<sup>1</sup> Inside clear heights of 8'-4" and 9'-4" are also available. Dimension shown is the distance between the suspended ceiling and a maximum ¾" finished floor. If ½" finished floor, the inside clear height increases to 7'-4¾".

<sup>2</sup> This capacity is not available with center opening doors.

<sup>3</sup> For non-seismic installations, add 1" to hoistway width when travel exceeds 100'.

For seismic Zone 2 or greater or IBC equivalent, add 2" to hoistway width if travel is less than or equal to 100'.

For seismic Zone 2 or IBC equivalent, add 3" to hoistway width if travel exceeds 100'.

For seismic Zone 3 or greater or IBC equivalent, add 3" to the hoistway width if travel is between 100-250'.

For seismic Zone 3 or greater or IBC equivalent, add 6" to hoistway width if travel is greater than 250'.

<sup>4</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required.

<sup>5</sup> For areas enforcing ASME A17.1 2010 code or greater, the minimum overhead requirement is the same for simplex/multi car/seismic/non-seismic. For areas enforcing pre-2010 ASME A17.1 code and speed is equal to 200 fpm, the minimum overhead is still the same, but if speed increases to 350 fpm or more, the minimum overhead is greater than what is shown.

<sup>6</sup> Provided and installed by others, as directed by the local thyssenkrupp Elevator office. Minimum overhead is shown to the bottom of the safety beam.

<sup>7</sup> Clear inside cab is based on maximum ½" applied wall panel.

<sup>8</sup> No occupied space allowed below pit.

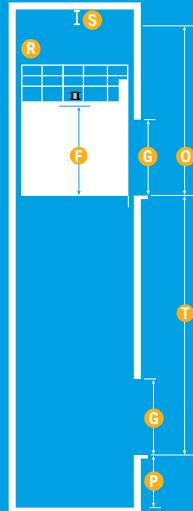
<sup>9</sup> Door clear height of 8'-0" is also available for taller cabs but contact your local representative for additional details.

<sup>10</sup> Minimum pit depth increases to 6'-6" on a 4000 lbs capacity car, 350 fpm when it exceeds 225 feet of travel because it needs a compensation wheel for balancing the car.

<sup>11</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

## Front opening (F)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- R** Car top railing
- S** Safety beam
- T** Travel



Low-rise to mid-rise traction elevators

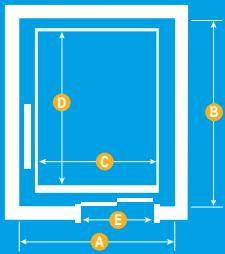
# evolution 200

## Self supported

Travel	Speed	Capacity
350'-0"	200–600 fpm	4500–5000 lbs

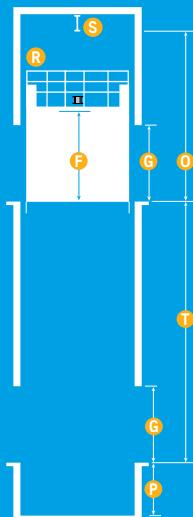
Click above for specific product specs

Two-speed side-opening doors

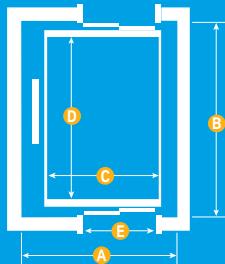


## Front and rear opening (F/R)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- R** Car top railing
- S** Safety beam
- T** Travel



Two-speed side-opening doors



### Service elevator

Capacity (lbs)	Hoistway <sup>3, 9</sup> A x B	Front/ rear	Inside clear <sup>6</sup> C x D	Door type	Door width <sup>2</sup> E
4500	7'-6" x 9'-6½"	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	7'-6" x 10'-8½"	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	7'-6" x 10'-2"	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	7'-6" x 11'-4"	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	7'-6" x 10'-9"	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	7'-6" x 11'-11"	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-4" <sup>1</sup>

**G** Door clear height: 7'-0" <sup>8</sup>

**S** 8" safety beam (2" clear above)  
required capable of holding  
7500 lbs <sup>5</sup>

**O** Minimum overhead: <sup>4, 5</sup>

200 fpm: 12'-8"

350 fpm: 13'-4"

500 fpm: 13'-11"

600 fpm: 15'-0"

**P** Minimum pit depth: <sup>7</sup>

200 fpm: 5'-0"

350 fpm: 5'-6"

500 fpm: 6'-6"

600 fpm: 7'-2"

<sup>1</sup> Inside clear heights of 8'-4" and 9'-4" are also available. Dimension shown is the distance between the suspended ceiling and a maximum ¾" finished floor. If ⅜" finished floor, the inside clear height increases to 7'-4¾".

<sup>2</sup> For 54" (4'-6") doors, hoistway width increases to 8'-3" for non-seismic and seismic. For 48" (4'-0") doors, see note 3.

<sup>3</sup> For non-seismic installations, add 1" to hoistway width when travel exceeds 100'.

For seismic Zone 2 or greater or IBC equivalent, add 2" to hoistway width if travel is less than or equal to 100'.

For seismic Zone 2 or IBC equivalent, add 3" to hoistway width if travel exceeds 100'.

For seismic Zone 3 or greater or IBC equivalent, add 3" to the hoistway width if travel is between 100-250'.

For seismic Zone 3 or greater or IBC equivalent, add 6" to hoistway width if travel is greater than 250'.

<sup>4</sup> For areas enforcing ASME A17.1 2010 code or greater, the minimum overhead requirement is the same for simplex/multi car/seismic/non-seismic. For areas enforcing pre-2010 ASME A17.1 code and speed is equal to 200 fpm, the minimum overhead is still the same, but if speed increases to 350 fpm or more, the minimum overhead is greater than what is shown.

<sup>5</sup> Provided and installed by others, as directed by the local thyssenkrupp Elevator office. Minimum overhead is shown to the bottom of the safety beam.

<sup>6</sup> Clear inside cab is based on maximum ½" applied wall panel.

<sup>7</sup> No occupied space allowed below pit.

<sup>8</sup> Door clear height of 8'-0" is also available for taller cabs but contact your local representative for additional details.

<sup>9</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

Low-rise to mid-rise traction elevators

# synergy

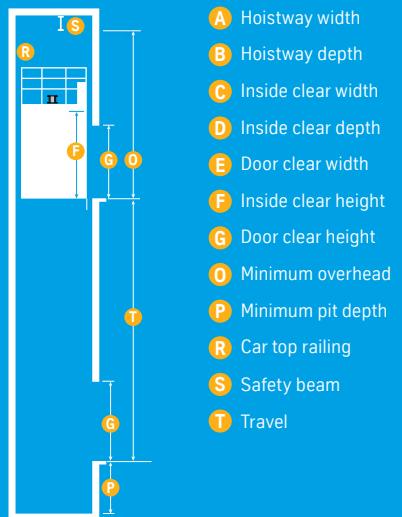
## Self supported

Travel	Speed	Capacity
85'-0"	150 fpm	2100–3500 lbs

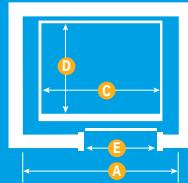
 Click above for specific product specs



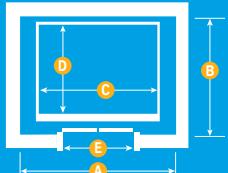
## Front opening (F)



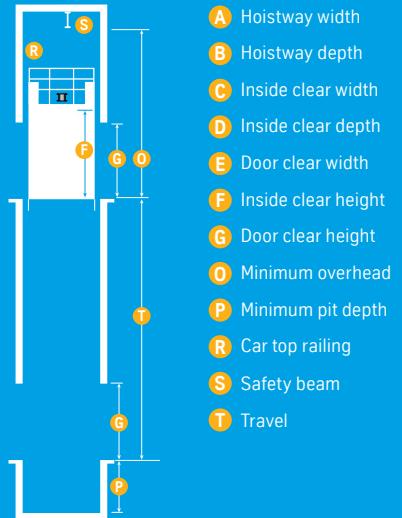
One-speed side opening doors



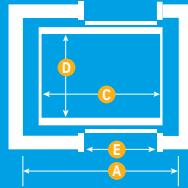
One-speed center opening doors



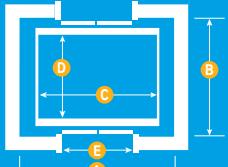
## Front and rear opening (F/R)



One-speed side opening doors



One-speed center opening doors



Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

 Inside clear height: 7'-2¾" <sup>1</sup>

 Minimum pit depth: 5'-0" <sup>9</sup>

 Safety beam required per OSHA 1926.502 <sup>8</sup>

 Door clear height: 7'-0"

<sup>1</sup> Inside clear heights of 8'-2¾" and 9'-2¾" also available. Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>2</sup> Pocket required for pit ladder with standard hoistway sizes.

<sup>3</sup> This capacity is not available with center opening doors.

<sup>4</sup> To meet the requirements of IBC code for 84" stretchers, a 3'-6" side opening door is required.

<sup>5</sup> For Seismic Zones 2 or greater, add 4" to hoistway width and 1" to hoistway depth.

<sup>6</sup> For Seismic Zones 2 or greater, add 4" to hoistway width.

<sup>7</sup> Overhead requirements increase by 2" with groups of two or more cars and/or seismic conditions.

For areas enforcing pre-2010 ASME A17.1 Safety Code for Elevators, contact your local representative for overhead requirements.

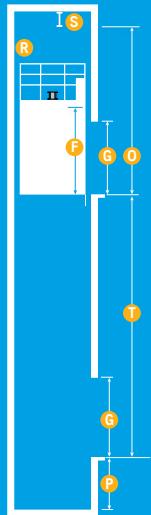
<sup>8</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>9</sup> No occupied space allowed below pit.

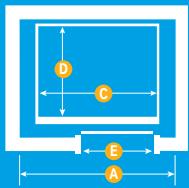
<sup>10</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

## Front opening (F)

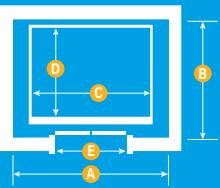
- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- R** Car top railing
- S** Safety beam
- T** Travel



One-speed side opening doors

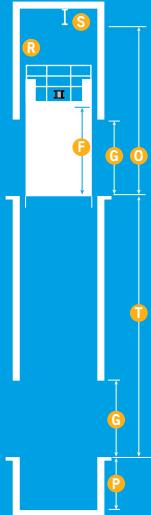


One-speed center opening doors

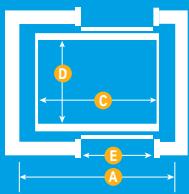


## Front and rear opening (F/R)

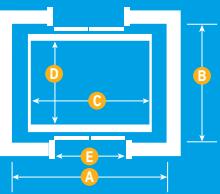
- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- R** Car top railing
- S** Safety beam
- T** Travel



One-speed side opening doors



One-speed center opening doors



Low-rise to mid-rise traction elevators

# synergy

## Building supported – standard

Travel	Speed	Capacity
300'-0"	200, 350 fpm	2500-4000 lbs <sup>3</sup>

Click above for specific product specs

### Passenger standard

Capacity (lbs)	Hoistway A x B <sup>2,9</sup>	Front/rear	Inside clear C x D	Door type	Door width E
2500	8'-4" x 6'-8" <sup>4</sup>	F	6'-8" x 4'-3"	One-speed	3'-6"
2500 <sup>6</sup>	9'-2" x 5'-9" <sup>5</sup>	F	6'-8" x 4'-3"	One-speed	3'-6"
2500	9'-2" x 6'-8 <sup>3/4</sup> " <sup>5</sup>	F/R	6'-8" x 4'-3 <sup>1/2</sup> "	One-speed	3'-6"
3000	8'-4" x 7'-2" <sup>4</sup>	F	6'-8" x 4'-9"	One-speed	3'-6"
3000 <sup>6</sup>	9'-2" x 6'-3" <sup>5</sup>	F	6'-8" x 4'-9"	One-speed	3'-6"
3000	9'-2" x 7'-2 <sup>3/4</sup> " <sup>5</sup>	F/R	6'-8" x 4'-9 <sup>1/2</sup> "	One-speed	3'-6"
3500 <sup>2</sup>	8'-4" x 7'-10" <sup>4</sup>	F	6'-8" x 5'-5"	One-speed	3'-6"
3500 <sup>2,6</sup>	9'-2" x 6'-11" <sup>5</sup>	F	6'-8" x 5'-5"	One-speed	3'-6"
3500 <sup>2</sup>	9'-2" x 7'-10 <sup>3/4</sup> " <sup>5</sup>	F/R	6'-8" x 5'-5 <sup>1/2</sup> "	One-speed	3'-6"
4000 <sup>2,3</sup>	9'-4" x 7'-10" <sup>4</sup>	F	7'-8" x 5'-5"	One-speed	3'-6"/4'-0"
4000 <sup>6</sup>	10'-2" x 6'-11" <sup>5</sup>	F	7'-8" x 5'-5"	One-speed	3'-6"/4'-0"
4000 <sup>2,3</sup>	10'-2" x 7'-10 <sup>3/4</sup> " <sup>5</sup>	F/R	7'-8" x 5'-5 <sup>1/2</sup> "	One-speed	3'-6"/4'-0"

Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-2<sup>3/4</sup>"<sup>1</sup>

**G** Door clear height: 7'-0"

**S** Safety beam required per OSHA 1926.502<sup>7</sup>

**O** Minimum overhead: <sup>1</sup>

200 fpm: 14'-9"

350 fpm: 15'-5"

**P** Minimum pit depth: <sup>8</sup>

200 fpm: 5'-0"

350 fpm: 5'-5"

<sup>1</sup> Inside clear heights up to 9'-2<sup>3/4</sup>" available in 1" increments. Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>2</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required.

<sup>3</sup> 200 fpm unavailable for 4000 lbs capacity.

<sup>4</sup> For Seismic Zones 2 or greater, add 2" to hoistway width.

<sup>5</sup> For Seismic Zones 2 or greater, add 4" to hoistway width.

<sup>6</sup> Configuration with side counterweight on front opening arrangement.

<sup>7</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>8</sup> Occupied space is allowed below pit, but increases in minimum hoistway and overhead dimension. Consult your thyssenkrupp representative for increased dimensions.

<sup>9</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

Low-rise to mid-rise traction elevators

# synergy

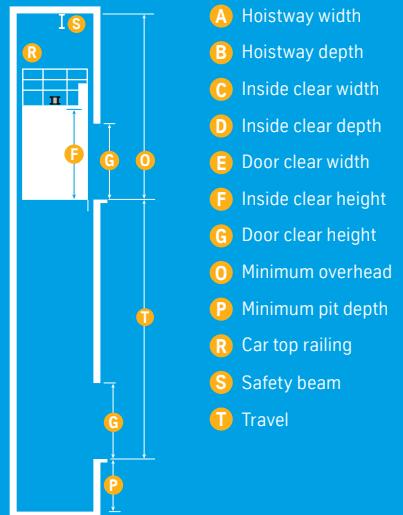
## Building supported – performance

Travel	Speed	Capacity
300'-0"	200, 350, 500 fpm	2100–4000 lbs

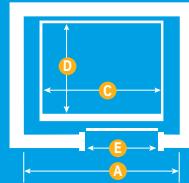
 Click above for specific product specs



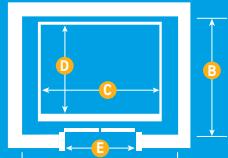
### Front opening (F)



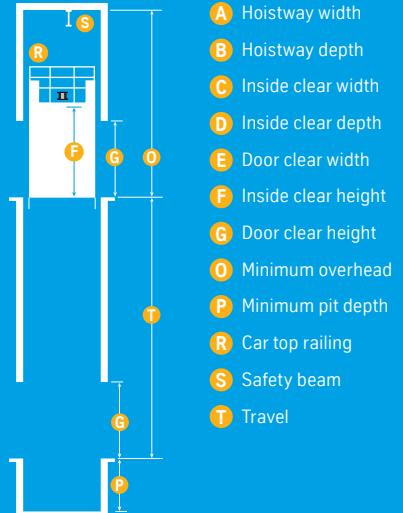
One-speed side opening doors



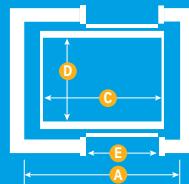
One-speed center opening doors



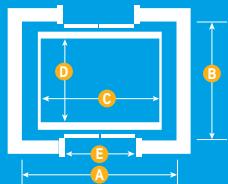
### Front and rear opening (F/R)



One-speed side opening doors



One-speed center opening doors



Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**F** Inside clear height: 7'-4" <sup>1</sup>

**G** Door clear height: 7'-0"

**S** Safety beam required per OSHA 1926.502 <sup>7</sup>

**O** Minimum overhead: <sup>1</sup>

200 fpm: 16'-0"  
(for front-opening 2100–4000  
lbs capacities only),  
16'-6" (for front/rear-opening  
2500–3500 lbs capacities)  
350 fpm: 16'-4"  
500 fpm: 17'-6"

**P** Minimum pit depth: <sup>6</sup>

200 fpm: 5'-0"  
350 fpm: 5'-0"  
500 fpm: 6'-6"

<sup>1</sup> Inside clear heights available in 1" increments. Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>2</sup> This capacity is not available with center opening doors.

<sup>3</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required.

<sup>4</sup> For Seismic Zones 2 or greater, add 4" to hoistway width and 2" to hoistway depth.

<sup>5</sup> For Seismic Zones 2 or greater, add 7" to hoistway width.

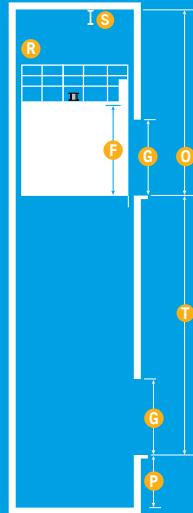
<sup>6</sup> Occupied space is allowed below pit, but increases minimum hoistway and clear overhead dimensions. Consult with your thyssenkrupp representative for increased dimensions.

<sup>7</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>8</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

## Front opening (F)

- A Hoistway width
- B Hoistway depth
- C Inside clear width
- D Inside clear depth
- E Door clear width
- F Inside clear height
- G Door clear height
- O Minimum overhead
- P Minimum pit depth
- R Car top railing
- S Safety beam
- T Travel



Low-rise to mid-rise traction elevators

# synergy

## Building supported – performance

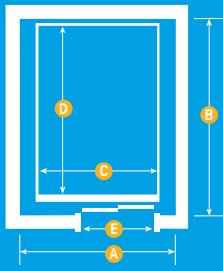
Travel	Speed	Capacity
300'-0"	200, 350, 500 fpm	4500–5000 lbs

Click above for specific product specs

### Service performance

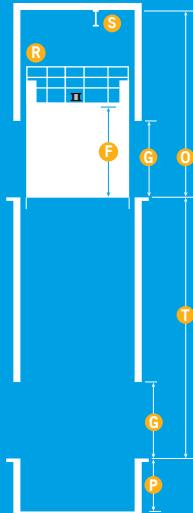
Capacity (lbs)	Hoistway A x B	Front/ rear	Inside clear C x D	Door type	Door width <sup>2</sup> E
4500	8'-2" x 9'-8" <sup>3</sup>	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	8'-2" x 10'-9¼" <sup>3</sup>	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	8'-2" x 10'-2" <sup>3</sup>	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	8'-2" x 11'-4¾" <sup>3</sup>	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	8'-2" x 10'-9" <sup>3</sup>	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	8'-2" x 11'-11¾" <sup>3</sup>	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Two-speed side opening doors

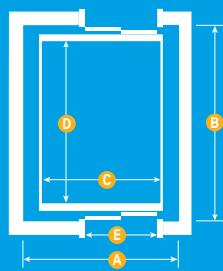


## Front and rear opening (F/R)

- A Hoistway width
- B Hoistway depth
- C Inside clear width
- D Inside clear depth
- E Door clear width
- F Inside clear height
- G Door clear height
- O Minimum overhead
- P Minimum pit depth
- R Car top railing
- S Safety beam
- T Travel



Two-speed side opening doors



Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

F Inside clear height: 7'-4" <sup>1</sup>

O Minimum overhead: <sup>1</sup>

P Minimum pit depth: <sup>4</sup>

200 fpm: 16'-4"

200 fpm: 5'-0"

350 fpm: 16'-4"

350 fpm: 5'-0"

500 fpm: 17'-6"

500 fpm: 6'-6"

G Door clear height: 7'-0"

S Safety beam required per  
OSHA 1926.502 <sup>5</sup>

<sup>1</sup> Inside clear heights available in 1" increments. Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>2</sup> With optional 4'-6" two-speed side opening door, hoistway width remains 8'-2".

<sup>3</sup> For Seismic Zones 2 or greater, add 7" to hoistway width.

<sup>4</sup> Occupied space is allowed below pit, but increases minimum hoistway and clear overhead dimensions. Consult with your thyssenkrupp representative for increased dimensions.

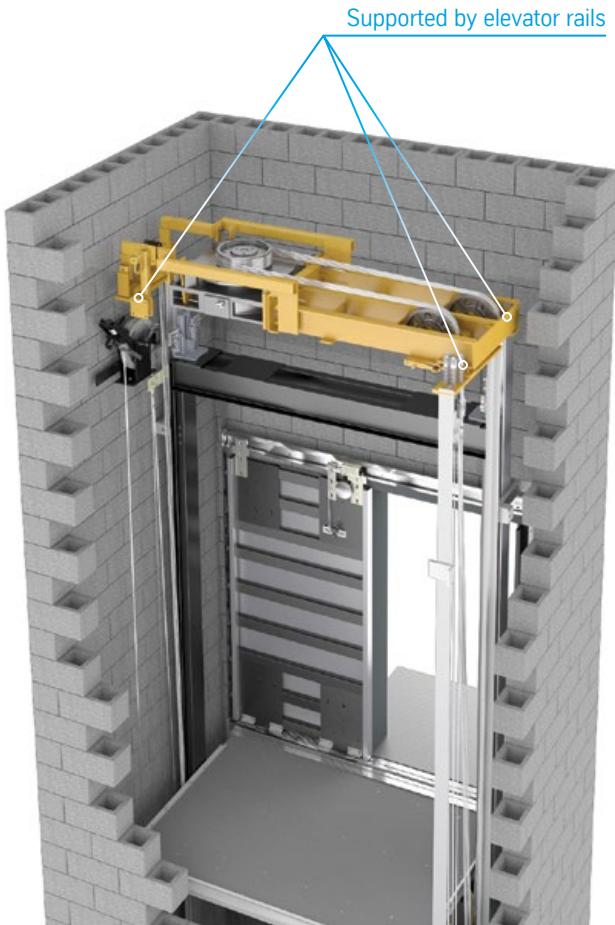
<sup>5</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

<sup>6</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

# Support configurations

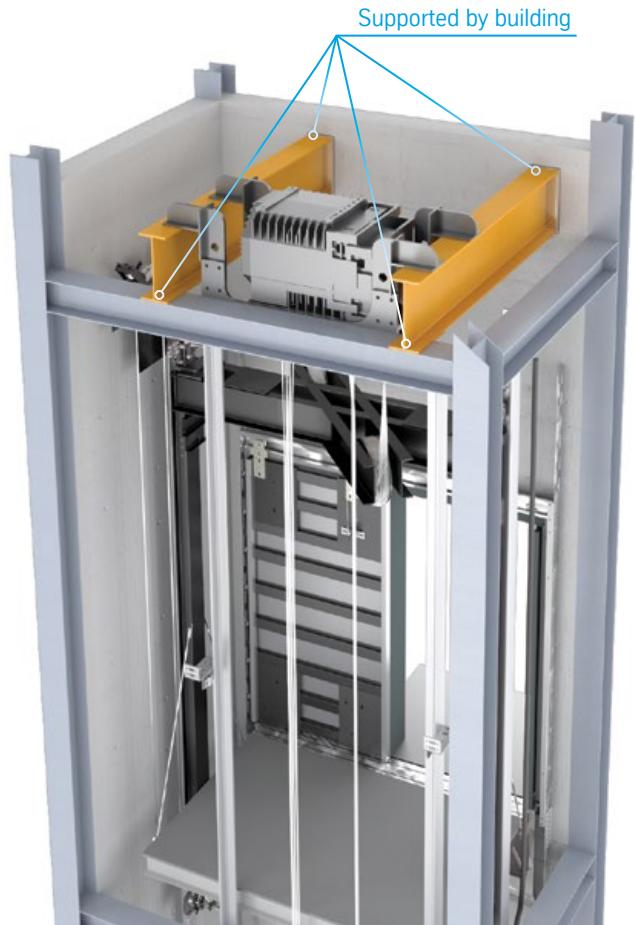
Our MRL traction elevators come in two different configurations: self supported and building supported. Let's see which one is right for your building.

## Self supported



The self supported configuration enables the loads imposed by the elevator system to be transferred from the machine at the top of the hoistway, down the guide rails, to the pit below.

## Building supported



The building supported configuration requires structural support by the building. As a result, this elevator is able to achieve faster speeds and higher capacities.

### Configuration ideal for:

- ⊖ Block or wood construction not intended to carry the loads of an elevator system.
- ⊖ Travel distance up to 85' - 0"; car capacities up to 3500 lbs and speeds up to 150 fpm. Choose synergy.
- ⊖ Travel distance up to 350'-0"; car capacities up to 5000 lbs and speeds up to 600 fpm. Choose evolution 200.
- ⊖ Standard and upgraded finishes and flooring.

### Configuration ideal for:

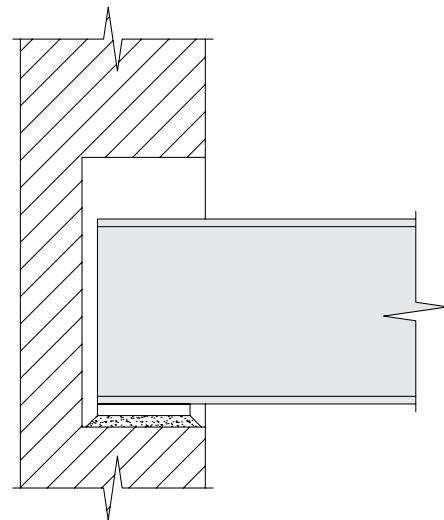
- ⊖ Steel, concrete or other construction methods capable of carrying the loads of an elevator system.
- ⊖ Buildings with travel distance up to 300'-0".
- ⊖ Elevators with capacities up to 5000 lbs and speeds up to 500 fpm.
- ⊖ Standard and upgraded finishes and flooring.

## Building supported connection details

Machine beam supported in beam pocket on sides or front or back of hoistway



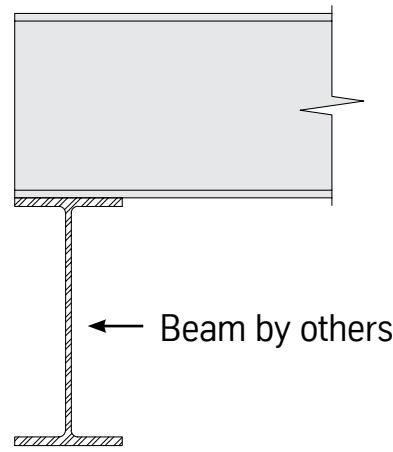
Machine beam supported in beam pocket



Machine beam supported by steel beam on sides or front or back of hoistway



Machine beam supported by steel beam



# Controller closets

The features of your MRL traction system determine the controller closet you'll need.\*

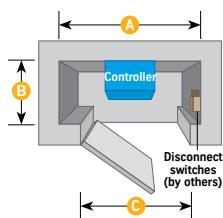
Controller closets includes room for controller, disconnect and resistor boxes. The most desirable controller closet location is on the top floor served, adjacent to the elevator hoistway.

At an additional cost, it may be located remotely, but must be within 150 feet of wire length from motor to controller.

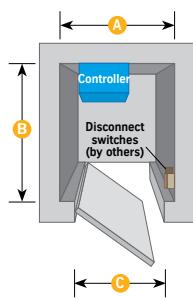
## Simplex

### evolution

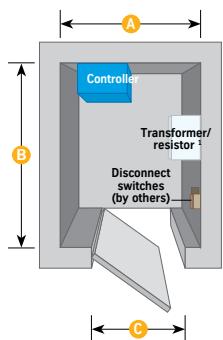
#### Small



#### Medium

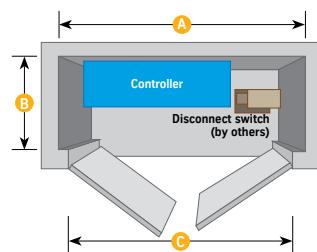


#### Large

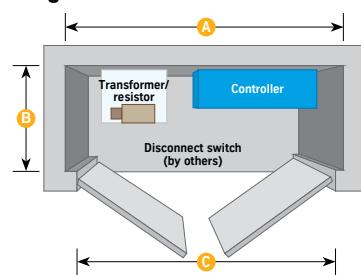


### synergy self supported

#### Small

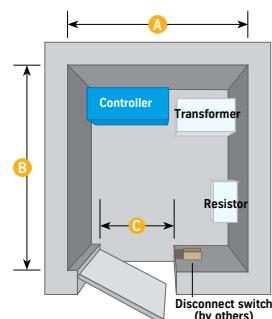


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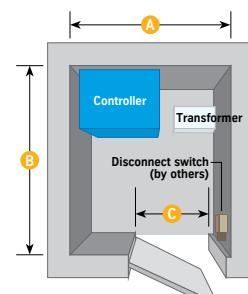


### synergy building supported

#### Standard



#### Performance



#### evolution 200 simplex<sup>2</sup>

Size	A	B	C
Small	4'-6"	2'-0"	3'-0"
Medium	3'-10"	4'-7"	3'-0"
Large	4'-6"	5'-11"	3'-6"

#### synergy self supported simplex<sup>2</sup>

Size	A	B	C
Small	5'-6"	1'-8"	5'-0"
Large	6'-6"	2'-6"	6'-0"

#### synergy building supported simplex<sup>2</sup>

Size	A	B	C
Standard	5'-6"	6'-4"	3'-0"
Performance	5'-0"	5'-11"	3'-0"

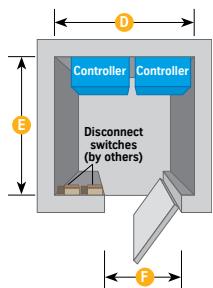
Dimensional data shown above is for both evolution and synergy, seismic and non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes.

If local jurisdiction or building codes dictate using a control room or closet for evolution, consult your thyssenkrupp Elevator representative for details.

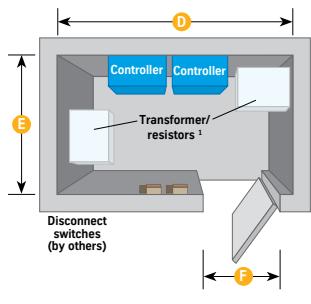
## Duplex

### evolution

#### Small

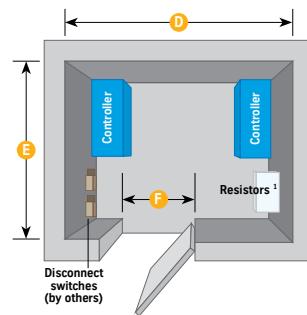


#### Large

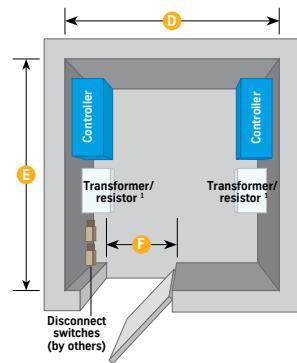


### synergy self supported

#### Small

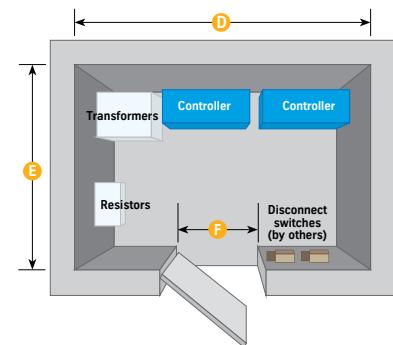


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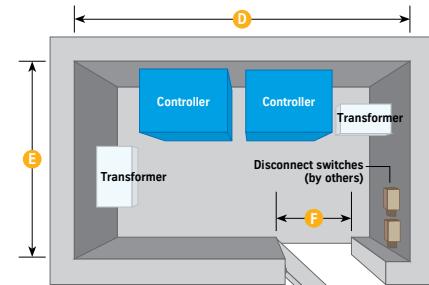


### synergy building supported

#### Standard



#### Performance



### evolution 200 duplex<sup>2,3</sup>

Size	D	E	F
Small	5'-6"	5'-5"	3'-0"
Large	9'-2"	5'-5"	3'-0"

### synergy self supported duplex<sup>2,3</sup>

Size	D	E	F
Small	7'-0"	5'-6"	3'-0"
Large	7'-0"	7'-8"	3'-0"

### synergy building supported duplex<sup>2</sup>

Size	D	E	F
Standard	8'-6"	6'-0"	3'-0"
Performance	10'-0"	5'-11"	3'-0"

\* Consult your thyssenkrupp Elevator representative to help determine your needs for your evolution 200 or synergy self supported installation.

<sup>1</sup> Devices are stacked in duplex configuration.

<sup>2</sup> Controller closet temperature range 32°F minimum, 104°F maximum.  
10-95% non-condensing relative humidity.

<sup>3</sup> May also use two separate closets.



# Speed.

# Innovation.

# Freedom.

## Mid-rise to high-rise traction

When height and speed are essential, our high-rise elevators can adapt to your vision as quickly as we can move people.

The world's high-rise buildings are skyrocketing to over 2000 feet. And our elevators can reach the top because of advanced technology and the creativity of our most experienced engineers. The result is an elevator that moves with precision and speed, while remaining remarkably energy-efficient and reliable. There are few restrictions on travel height and with speeds up to 2000 feet per minute, the technology can be adapted to buildings that truly want it all.

**Superior efficiency.**  
AC Gearless machine improves efficiency.

**Sustainability.**  
Regenerative-drive technology feeds generated power back into the building's grid to reduce energy costs.

**Interior quality.**  
UL-validated, low-emitting materials exceed indoor air quality standards.

thyssenkrupp  
supports the United  
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Building Council and  
is a visionary  
sponsor of the  
International Living  
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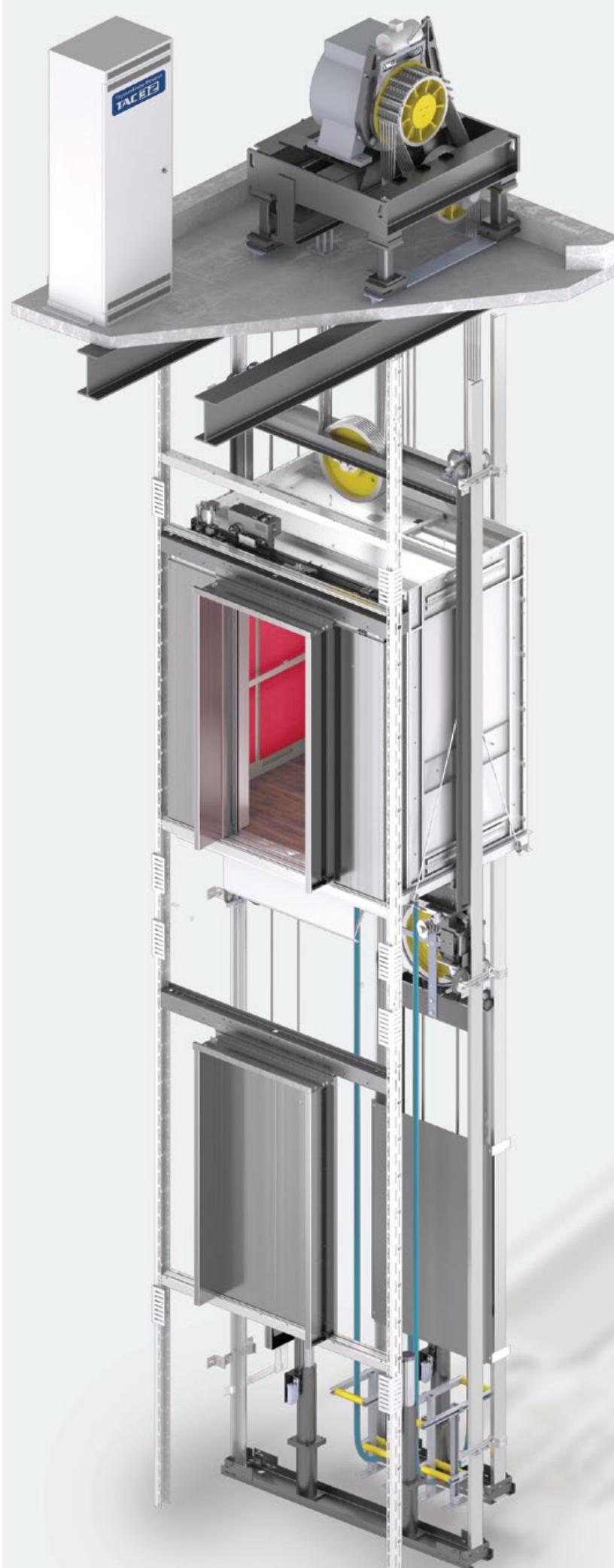


Speeds 350 – 2000 fpm



Capacities up to 5000 pounds





**momentum**  
Standard and performance

**momentum**  
Service

32  
33

Mid-rise to high-rise traction elevators

# momentum

## Passenger standard and performance

Travel*	Speed*	Capacity*
300'-0"	350, 500 fpm	2100–4000 lbs
825'-0"	700, 1000, 1200 fpm	2500–4000 lbs

 Click above for specific product specs

\* Higher travel, faster speed, and higher capacity available.

Passenger elevators			(P) Performance speed and travel available		
Capacity (lbs)	Hoistway <sup>9</sup> A x B	Front/rear	Inside clear C x D	Door type	Door width E
2100 <sup>1</sup>	7'-4" x 6'-8" <sup>6</sup>	F	5'-8" x 4'-3"	One-speed	3'-0"
2500 (P)	8'-4" x 6'-8" <sup>6</sup>	F	6'-8" x 4'-3"	One-speed	3'-6"
2500	9'-2" x 6'-8 <sup>3/4</sup> " <sup>3</sup>	F/R	6'-8" x 4'-3 <sup>1/2</sup> "	One-speed	3'-6"
3000 (P)	8'-4" x 7'-2" <sup>6</sup>	F	6'-8" x 4'-9"	One-speed	3'-6"
3000	9'-2" x 7'-2 <sup>3/4</sup> " <sup>3</sup>	F/R	6'-8" x 4'-9 <sup>1/2</sup> "	One-speed	3'-6"
3500 <sup>2</sup> (P)	8'-4" x 7'-10" <sup>6</sup>	F	6'-8" x 5'-5"	One-speed	3'-6"
3500 <sup>2</sup>	9'-2" x 7'-10 <sup>3/4</sup> " <sup>3</sup>	F/R	6'-8" x 5'-5 <sup>1/2</sup> "	One-speed	3'-6"
4000 <sup>2</sup> (P)	9'-4" x 7'-10" <sup>6</sup>	F	7'-8" x 5'-5"	One-speed	3'-6"/4'-0"

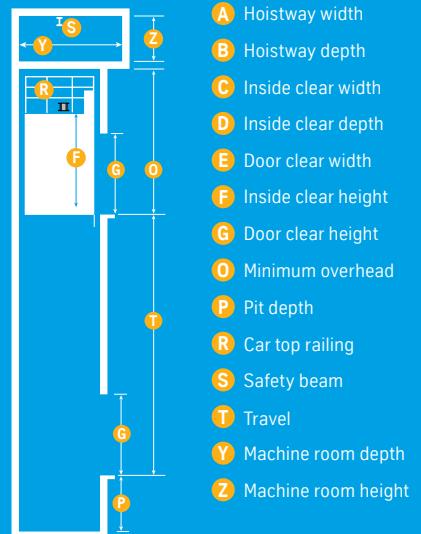
Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

- P Pit depth: <sup>7, 8</sup>  
350 fpm: 5'-0"  
500 fpm: 6'-6"  
700 fpm:  
Up to 500' travel – 6'-6"  
Over 500' travel – 11'-1"  
1000 fpm: 13'-4"  
1200 fpm: 22'-6"
- I Inside clear height: 7'-4"<sup>4</sup>

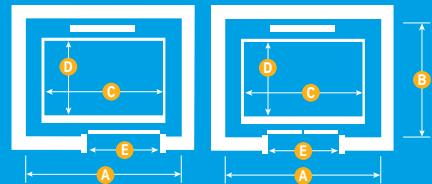
- G Door clear height: 7'-0"  
Safety beam required per OSHA 1926.502<sup>5</sup>
- O Minimum overhead:  
350 fpm: 15'-3"  
500 fpm: 16'-6"  
700 fpm: 20'-0"  
1000 fpm: 24'-8"  
1200 fpm: 27'-2"
- Z Minimum machine room height:  
Standard: 7'-6"  
Performance: 9'-8"
- Y Minimum machine room depth:  
Standard: 16'-0"  
Performance: 18'-0"



## Front opening (F)

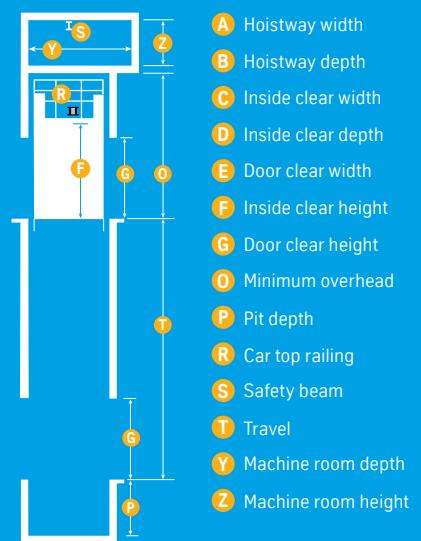


One-speed side opening doors

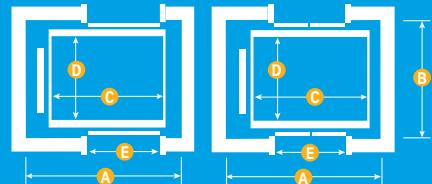


One-speed center opening doors

## Front and rear opening (F/R)



One-speed side opening doors



<sup>1</sup> This capacity is not available with center opening doors.

<sup>2</sup> To meet the requirements of IBC code for 84" stretchers, a 4'-0" center opening (for 4000 lbs capacity only) or 3'-6" side opening (for 3500 lbs or 4000 lbs capacity) door is required.

<sup>3</sup> For seismic conditions, add 6" to hoistway width.

<sup>4</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>5</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>6</sup> For non-seismic conditions on 1000 fpm speeds, add 2" to hoistway depth. For 1200 fpm speeds, add 2" to hoistway width and 4" to depth. For seismic conditions on 350 and 500 fpm speeds, add 4" to hoistway width and 3" to depth. For 700 fpm speeds, add 4" to hoistway width and 2" to depth. For 1000 and 1200 fpm speeds, add 5" to hoistway width and 4" to depth.

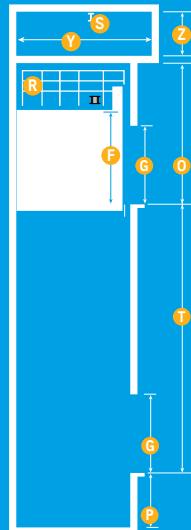
<sup>7</sup> Minimum overhead and pit can be reduced in some cases, consult your thyssenkrupp Elevator representative if required.

<sup>8</sup> Occupied space below the pit increases hoistway size.

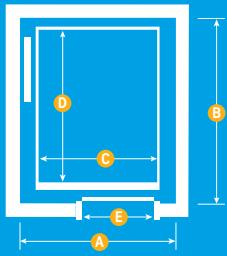
<sup>9</sup> For multiple elevators: Add 4" for a divider beam between hoistways.

## Front opening (F)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Pit depth
- R** Car top railing
- S** Safety beam
- T** Travel
- Y** Machine room depth
- Z** Machine room height

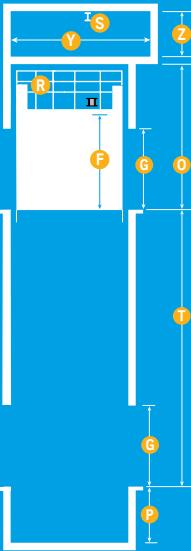


Two-speed side opening doors

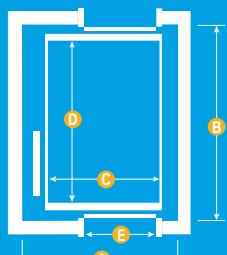


## Front and rear opening (F/R)

- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Pit depth
- R** Car top railing
- S** Safety beam
- T** Travel
- Y** Machine room depth
- Z** Machine room height



Two-speed side opening doors



Mid-rise to high-rise traction elevators

# momentum

## Service standard

Travel	Speed	Capacity
300'-0"	350, 500 fpm	4500–5000 lbs

Click above for specific product specs

### Service elevators

Capacity (lbs)	Hoistway <sup>5</sup> A x B	Front/ rear	Inside clear C x D	Door type	Door width E
4500	8'-1" x 9'-8"	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	8'-1" x 10'-9¼"	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	8'-1" x 10'-2"	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	8'-1" x 11'-4¾"	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	8'-3" x 10'-9"	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	8'-3" x 11'-11¾"	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Dimensional data shown above is for non-seismic zones and complies with current ASME A17.1 and CSA B44 Safety Code for Elevators. Local codes may vary from the national codes. Consult your thyssenkrupp Elevator representative for details.

**P** Pit depth: <sup>3, 4</sup>  
350 fpm: 5'-0"  
500 fpm: 6'-6"

**O** Minimum overhead:  
<sup>3</sup>  
350 fpm: 15'-0"  
500 fpm: 16'-6"

**Q** Minimum machine room height:  
Standard: 7'-6"

**F** Inside clear height:  
7'-4" <sup>1</sup>

**S** Safety beam required per  
OSHA 1926.502 <sup>2</sup>

**Y** Minimum machine room depth:  
4500–5000 lbs: 19'-0"

**G** Door clear height:  
7'-0"

<sup>1</sup> Dimension shown is based on suspended ceiling design. An increase in cab height will result in an increase in overhead requirements.

<sup>2</sup> Provided and installed by others, as directed by the local thyssenkrupp office. Minimum overhead is shown to the bottom of the safety beam.

<sup>3</sup> Minimum overhead and pit can be reduced in some cases, consult your thyssenkrupp Elevator representative if required.

<sup>4</sup> Occupied space below the pit increases hoistway size.

<sup>5</sup> For multiple elevators: Add 4" for a divider beam between hoistways.



# Beautiful.

# Customizable.

# Safe.

## Interior design

Cab interiors can take on a beautiful form while they function, so we give you choices. Customize your own or choose from our upgraded cabs and let us do the work.

Choose signals, fixtures, door types and entrance finishes to create your cab interior. Select woods, textures, patterns, metals and colors to design a cab that conveys the look and feel of your building. Our products are environmentally friendly because taking even the smallest steps to be greener can make a lasting impression on the world we live in. We offer a complete line of elevator interiors free from wood products containing added urea-formaldehyde. We also utilize powder coating as opposed to solvent-based paint and are validated by a third party (UL Underwriters Laboratories) to be low-emitting.

### Quality materials

Durable, environmentally-safe finishes and wood materials.

### Reliable lighting

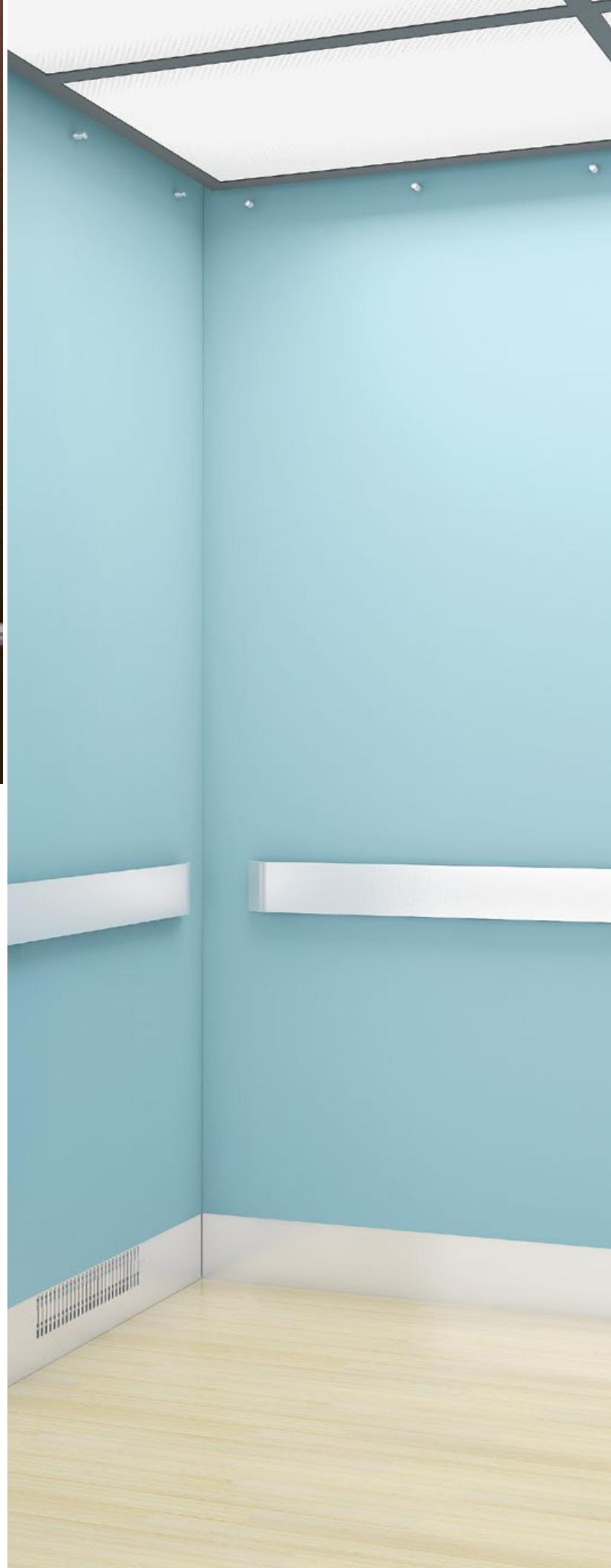
Low-voltage, energy-saving LED lights are standard.

### Energy saving

Auto shut-off fans and lights conserve energy.

We hold a Declare label for our standard cabs that can be used on Living Building Challenge projects.





## Cab designs

Laminate, steel shell and applied panel

36

## Finishes

Color selections

39

## Accessories

Ceilings, handrails and sills

40

## Fixtures

Standard and upgraded

41

## Upgraded and custom

Cabs

44

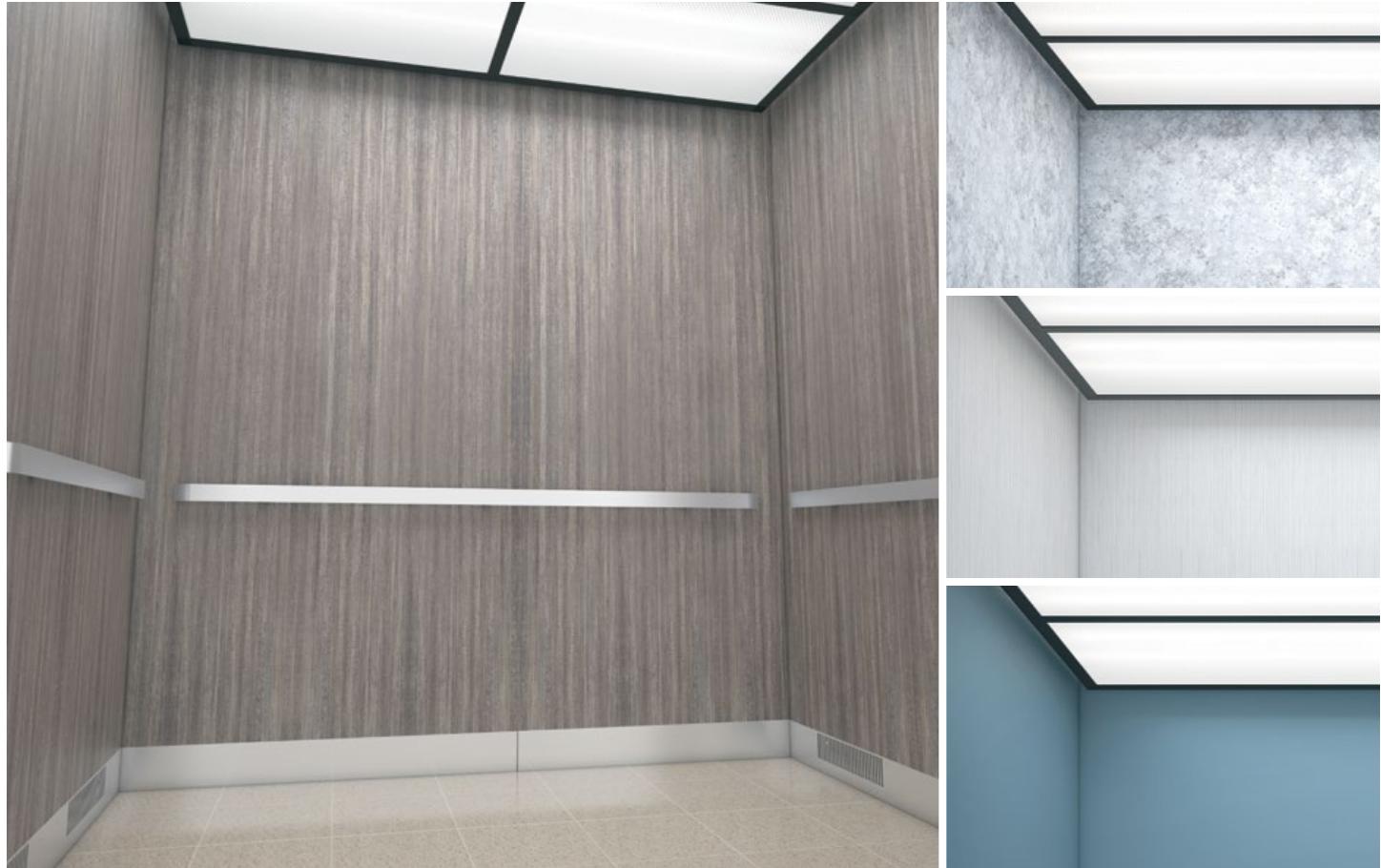
## Door and entrance

Configurations

48

# Laminate

Level 1



## Wood core laminate wall design

Create an impressive design with our wide variety of standard options. Walls include a laminate finish on a quality wood core. This cost-conscious choice is practical and durable.

### Wall finish options

#### Plastic laminates



Woods



Solids



Patterns

### Base finish options

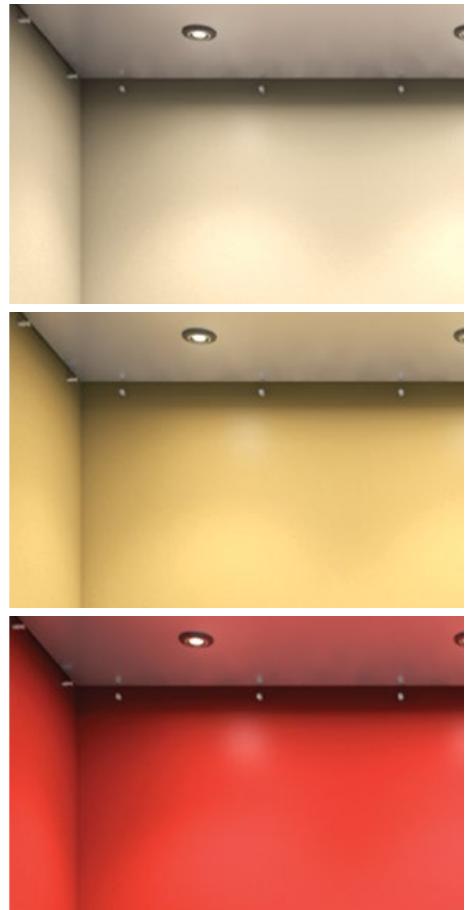
#### Powder coats



Metals

# Steel shell

Level 2



## Steel shell wall design

Clean and modern flat cab interior designs convey quality. Our durable formed steel cab is available in a variety of powder coat options or can be upgraded to stainless steel.

### Wall finish options

#### Powder coats



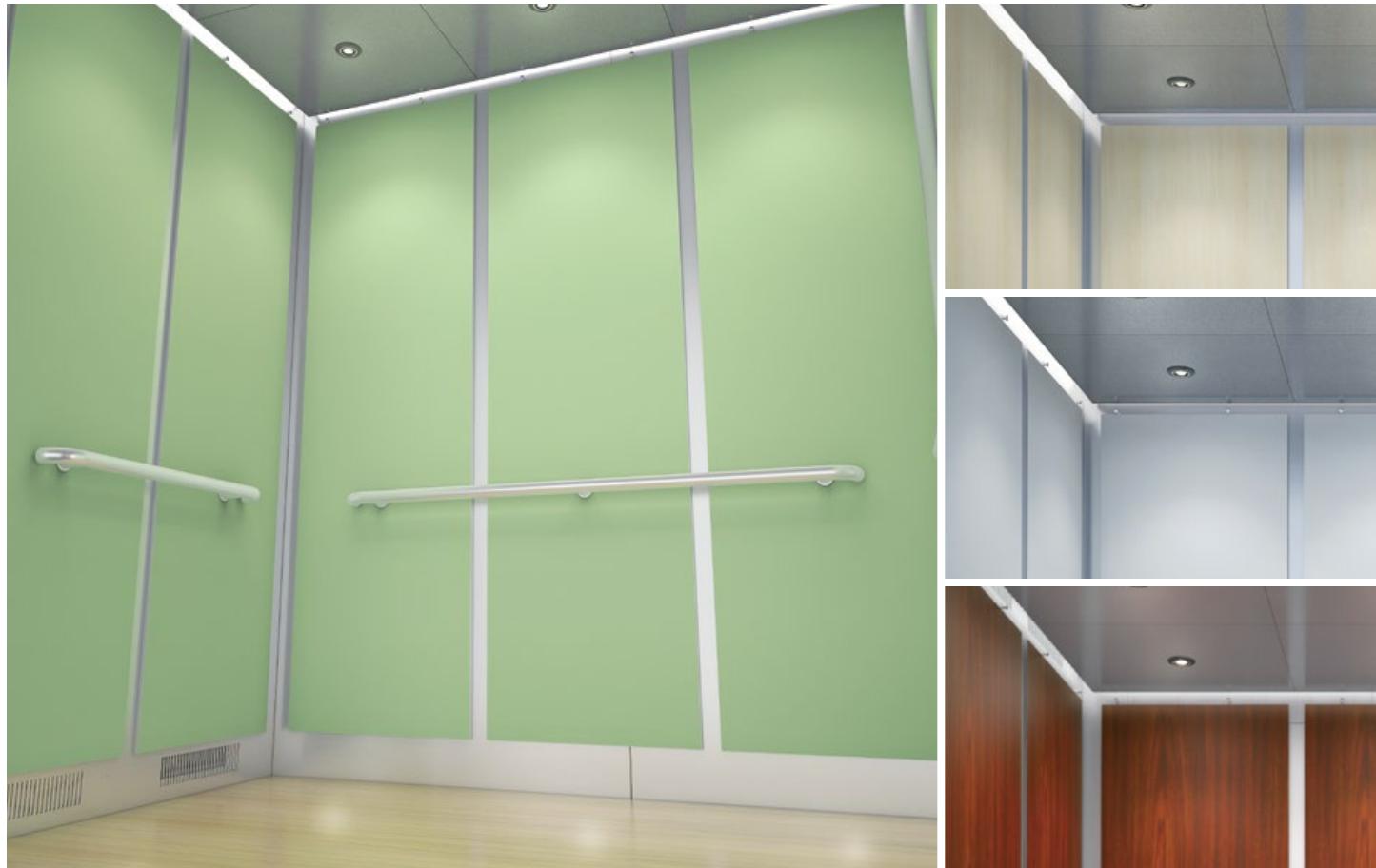
### Base finish options

#### Powder coats



# Applied panel

Level 3



## Steel shell wall with applied panel design

Mix beauty and practicality with this decorative and durable cabinet. The panel design is constructed with a high-quality steel shell.

and vertical raised panels made with a core of urea formaldehyde-free wood.

## Panel finish options

## Plastic laminates



#### Reveal, base, frieze finish options

### Powder coats



## Wood veneer and metals

Woods



Metals

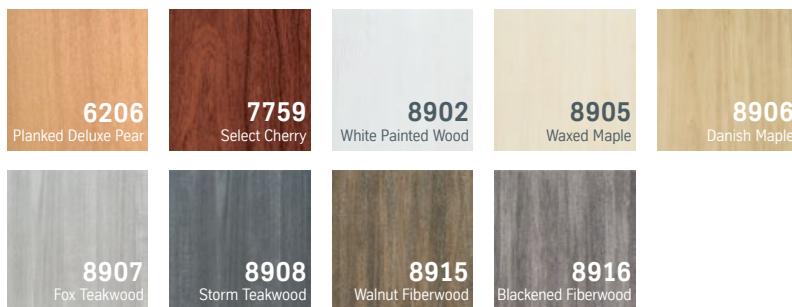
1



# Finishes

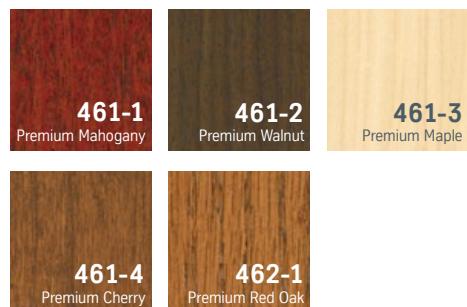
## Plastic laminates

### Woods



## Wood veneer

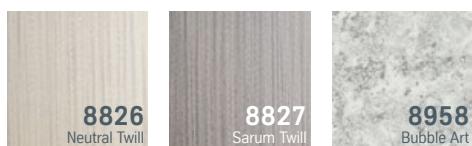
### Woods



## Solids



## Patterns

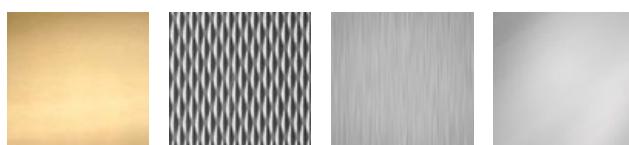


Colors may vary. We recommend examining a large selector sheet before making a selection.

## Powder coats



## Metals



Bronze<sup>1</sup>

5WL  
Stainless Steel<sup>1</sup>

Brushed  
Stainless Steel

Polished  
Stainless Steel<sup>1</sup>

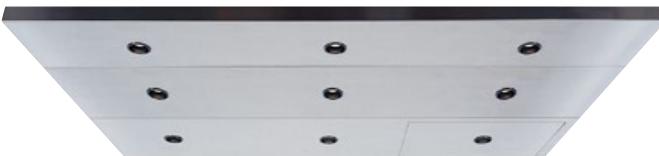
# Cab accessory options

## Ceilings



### Basic flat

Exposed cab top with optional recessed lighting is available in a powder coated steel finish. Ideal for service cars.



### Downlight<sup>2</sup>

Metal pan downlight ceiling features LED lighting. Lights are mounted in your choice of powder coated or stainless steel ceiling panels.



### Suspended

White translucent diffusers for LED lighting are available with ceiling frames in a powder coated, aluminum or stainless steel finish.



### Island downlight<sup>2,3</sup>

Particle board core faced with your choice of plastic laminate, stainless steel or bronze. Houses a concealed emergency exit, as well as concealed metal framework.

## Handrails



### Cylindrical

1½" cylindrical handrail is a continuous metal form with ends turned toward the wall. We also offer straight endcaps in lieu of the returned ends. Comes in brushed stainless steel.



### Flat bar

Metal bar handrail is available in ¼" thickness and 2", 4", or 6" widths. Comes in brushed stainless steel.

## Sills

Our cab sill finishes allow you to match your sills to any other design component inside the cab. The standard sill design is aluminum or bronze. You can upgrade the finish to nickel silver for maximum durability.



## Braille



### Option 1

Resin braille plate with raised floor and elevator identification. Adhered to door jamb.



### Option 2

Surface mount cast Braille plate with raised floor elevator identification.



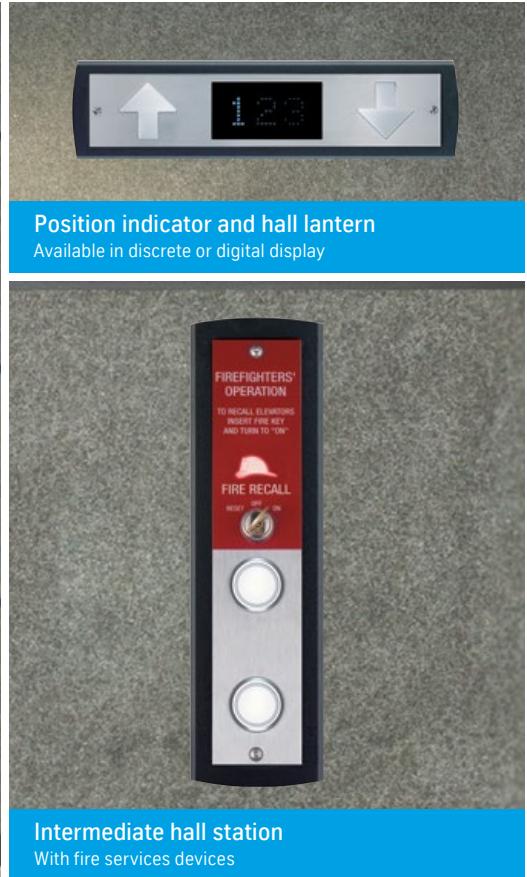
### Option 3

Flush (inlaid) mount cast Braille plate with raised floor elevator identification.

<sup>1</sup> Comes standard. Finishes may vary based on your project selections. <sup>2</sup> Lighting options may vary depending on cab size. <sup>3</sup> Not available on all models.

# Standard fixtures

Signa4



Car operating panel



Hall position indicator



Terminal hall lantern  
with arrow or domes



Intermediate hall lantern  
and car riding lantern  
with arrow or domes



Intermediate hall station  
with fire services, appendix H  
and appendix O signage



Intermediate hall station



Intermediate hall station  
With fire services devices



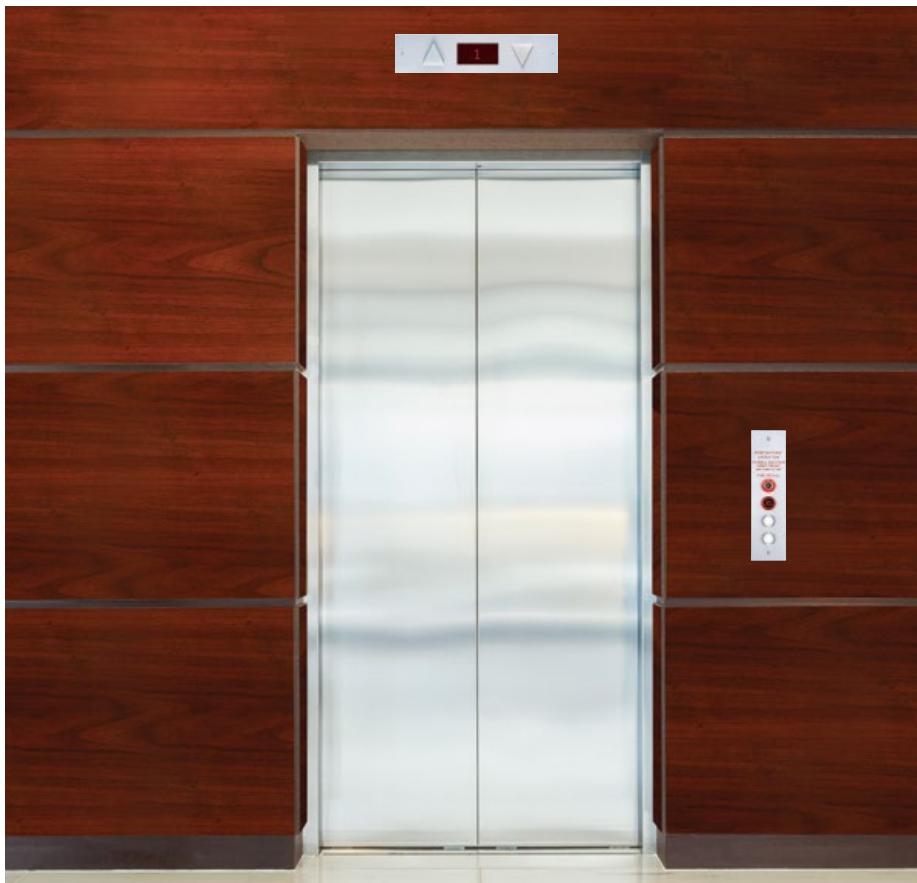
Push button  
Available in blue & white LED lighting

## Product details

- ⊖ Satin stainless-steel finish with charcoal trim
- ⊖ Allows for renovation of metal finish without requiring removal of box or frame

# Upgraded fixtures

Traditional



Car operating panel



Intermediate hall lantern and car riding lantern with arrows



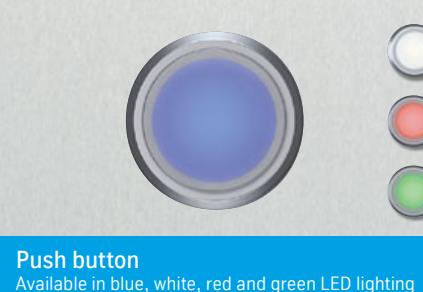
Terminal hall lantern



Terminal hall station with fire services, appendix H and appendix O signage



Intermediate hall station



Push button Available in blue, white, red and green LED lighting

## Product details

- ⊖ Faceplates in brushed or polished stainless steel
- ⊖ Position indicator displays car location with matrix of red LED-illuminated dots
- ⊖ Buttons available with white, blue, red or green LED lighting

## Vandal resistant



**Car operating panel**



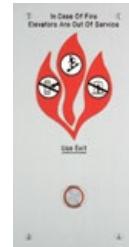
**Terminal hall lantern  
with arrow**



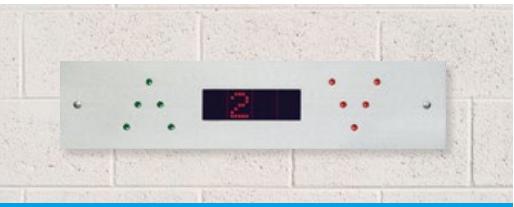
**Intermediate hall lantern  
with arrow**



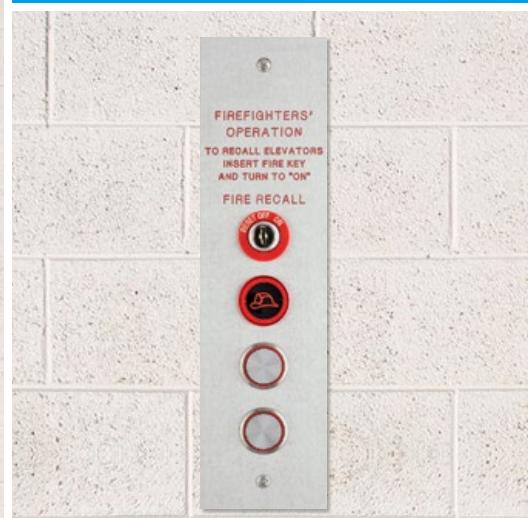
**Intermediate hall station  
with fire services, appendix H  
and appendix O signage**



**Terminal hall station  
with fire service key switch**



**Combo hall lantern and position indicator  
With directional arrows**



**Intermediate hall station  
With fire services devices**



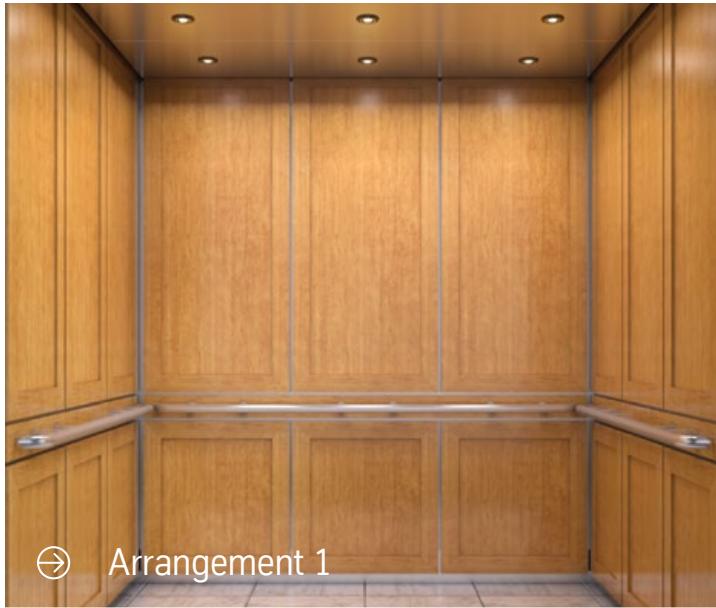
**Push button  
Available in red, blue, white and green LED lighting**

### Product details

- ⊖ Faceplates in brushed or polished stainless steel
- ⊖ Extra level of protection in challenging environments
- ⊖ Pry-resistant hall jamb symbols and buttons are mounted flush with the door frame

Piece  
together  
perfection.

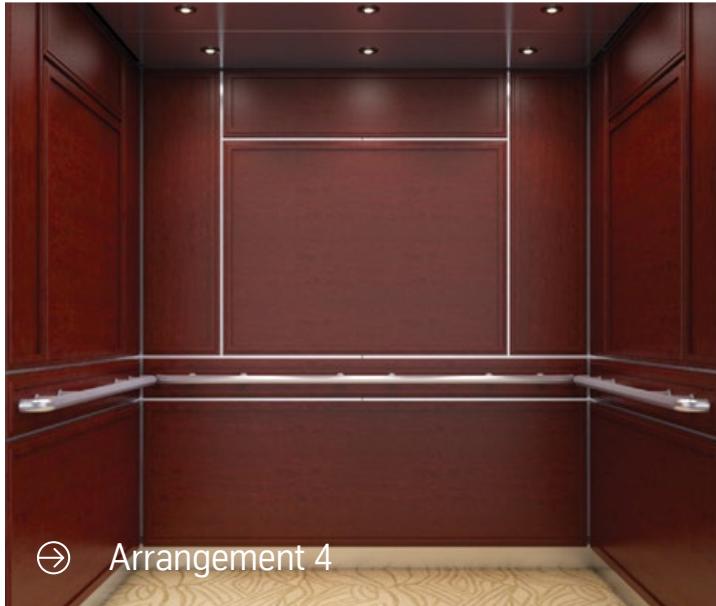
# Upgraded cabs



⊖ Arrangement 1



⊖ Arrangement 2



⊖ Arrangement 4

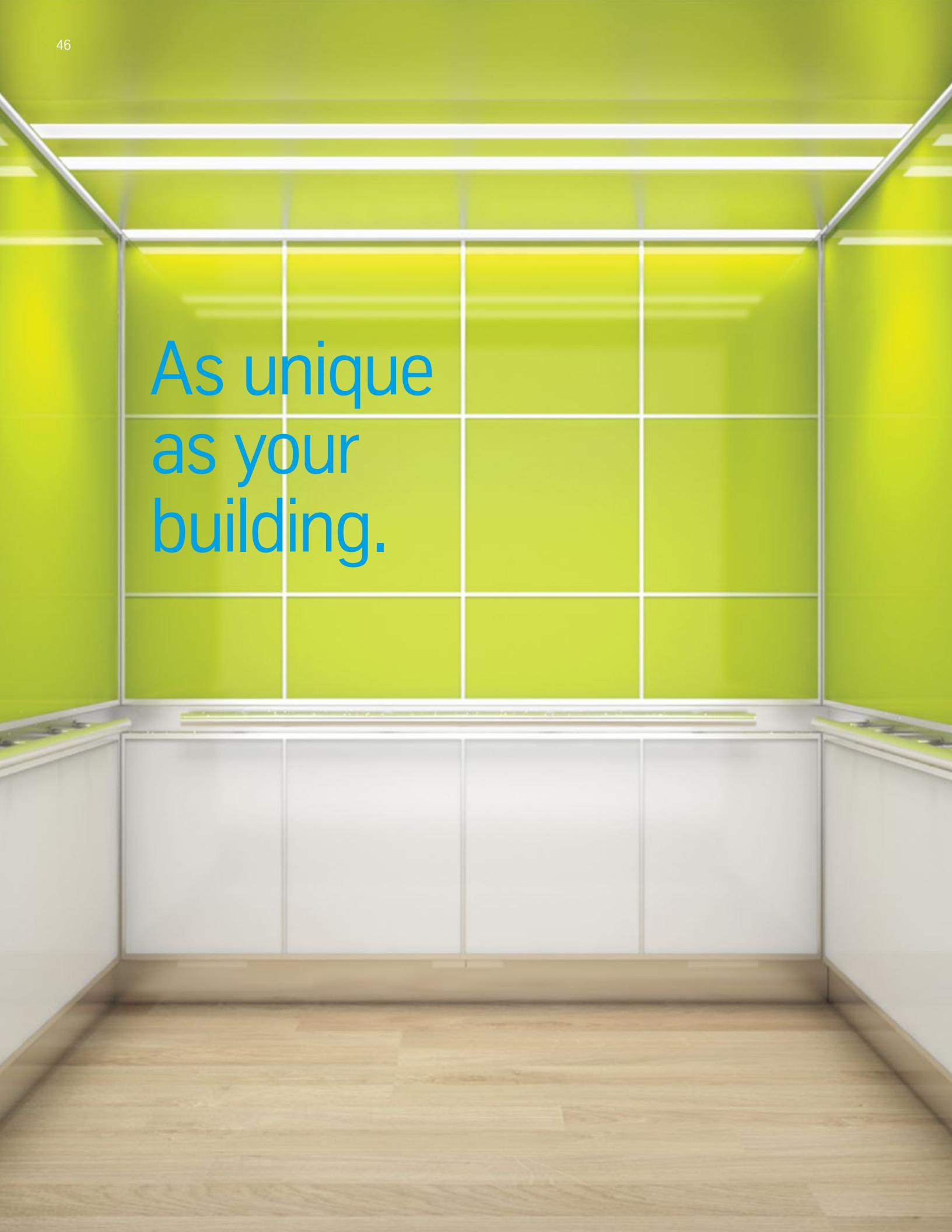
- ⊖ Innovative clip system for a quicker, quieter and cleaner install
- ⊖ Custom-designed look without the custom price tag

## Easy cab design

Get the look of custom-designed interiors without the custom price tag. Choose from pre-designed arrangements and finish options. Our three-step approach will keep your schedule and budget in line.

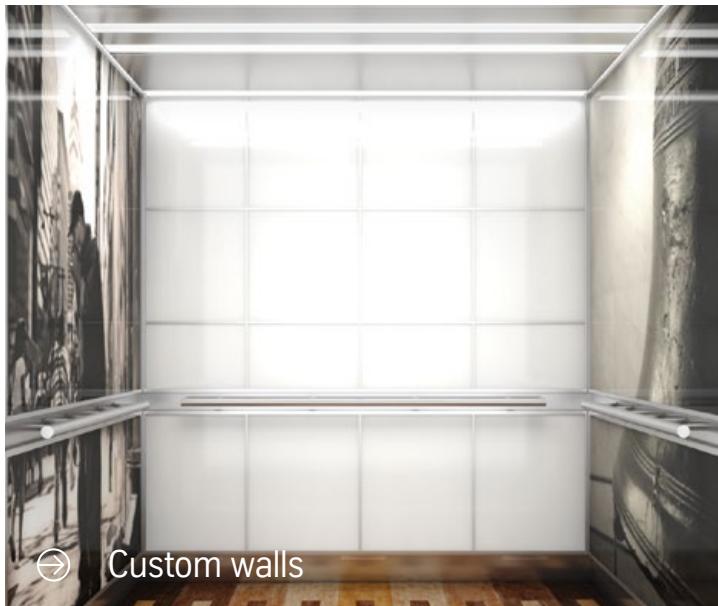
Carpets by others. Configurations shown above include standard and optional selections. Colors may vary. We recommend examining a large selector sheet before making a choice.

- ⊖ Additional arrangements available

A photograph of a modern kitchen interior. The walls are white, and the floor is made of light-colored wood planks. The kitchen features white cabinetry with glass doors, and a backsplash made of large, light green tiles. The lighting is bright, coming from recessed ceiling lights and a long, thin strip light above the counter.

As unique  
as your  
building.

# Custom cabs



⊕ Custom walls



⊕ Custom ceilings



⊕ Custom handrails

⊕ Use the materials and colors of your choice.

⊕ Complement your décor or make a design statement.

## Custom design

Elevator cab interiors are a blank slate. We can help you customize to tastefully complement your building's décor or make a statement with a unique design.

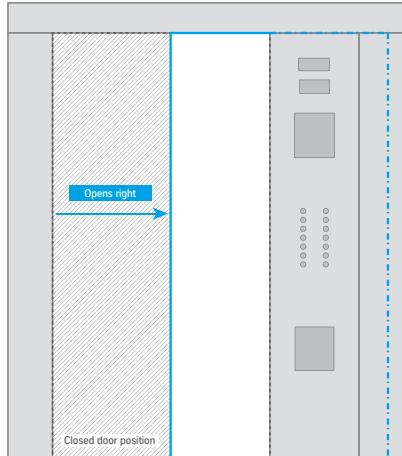
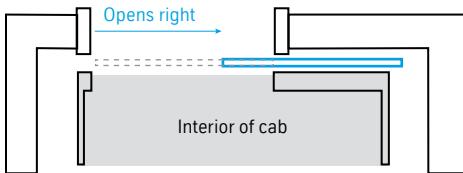
# Door configurations

Door orientation options offer a range of benefits to accommodate different project needs.

## Most economical

### One-speed

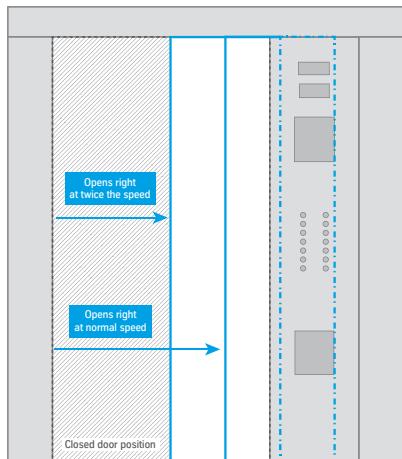
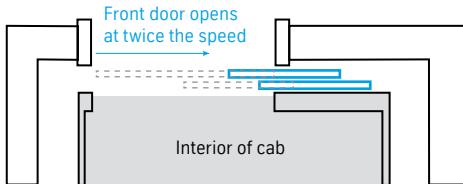
The most economical door offering, available with either right- or left-hand opening.  
(right-hand shown)



## Wider door opening

### Two-speed

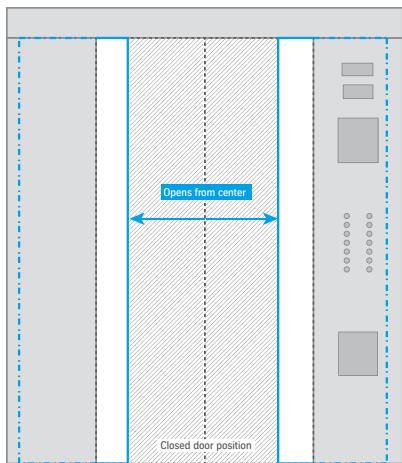
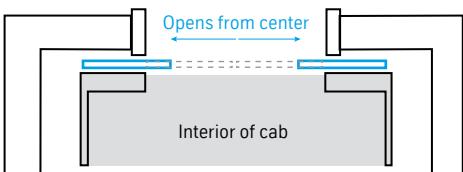
Provides a wider opening without compromising door cycling time. Two doors move in the same direction, one sliding faster than the other.  
Available with either right- or left-hand opening.  
(right-hand shown)



## Best for high traffic

### Center opening

Permits the quickest entry and exit, improving elevator service while giving an attractive, symmetrical appearance.



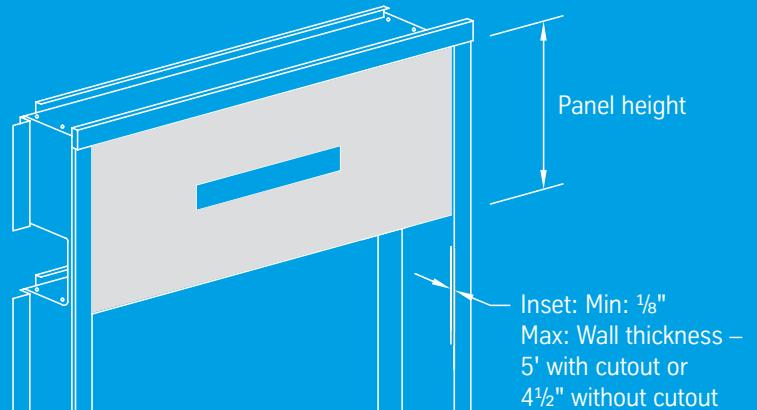
# Entrance details

## Transoms



### Arrangement 1: standard height

This transom arrangement features a top panel that spans the width of the door and mounts flush with the entrance frame. The panel height is variable but limited based on the wall construction type – 4" max height for drywall and 12" max height for masonry walls. Finish options available to match the entrance frame, which include the powder coat and metal options featured on page 39.

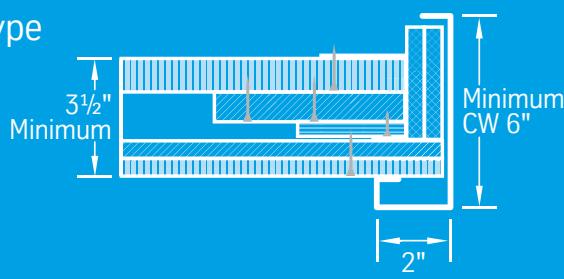


### Arrangement 3: full height

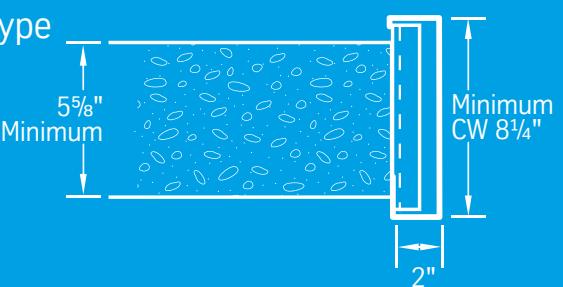
This transom arrangement is used to close in the hoistway opening and features extended height columns with a 2" trim panel across the top. The panel has a variable height and inset as shown above and can include a cutout for an elevator hall signal fixture. Finish options are available to match the entrance frame, which include the powder coat and metal options featured on page 39.

## Entrance wall construction

### Drywall type

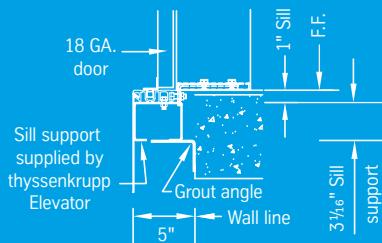


### Masonry type

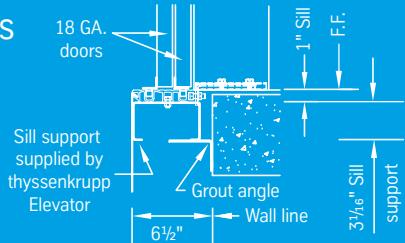


## Standard sill supports

### Center opening and one-speed doors



### Two-speed doors



Front walls should be left out until entrances are set in place or leave a minimum rough opening that is 15" wider and 15" higher than frame opening of doorway.

Sill support details shown above are for thyssenkrupp Elevator's standard entrance design.

These diagrams show wall thickness and construction detail required in order to supply a minimum fire resistance rating of 1 1/2 hours. Warnock Hersey Label on entrances. The dimension shown (3 1/2") is the minimum wall thickness.

Hand of doors is the direction the doors open, determined by standing inside of the elevator car facing toward the doors.

For additional entrance design and application arrangements, consult your thyssenkrupp Elevator representative for details.



Intelligent.

Innovative.

Sustainable.

## Innovations and enhancements

Raise the standard in safety, sustainability and performance with thyssenkrupp's innovations.

Your elevator system becomes more agile with our intelligent control system that reduces wait times and keeps your elevators secure. Move more people in fewer elevator shafts with the TWIN elevator system that operates two cabs in one hoistway.

Predictive and pre-emptive maintenance is provided with the Internet of Things-enabled MAX. And employ the absolute latest

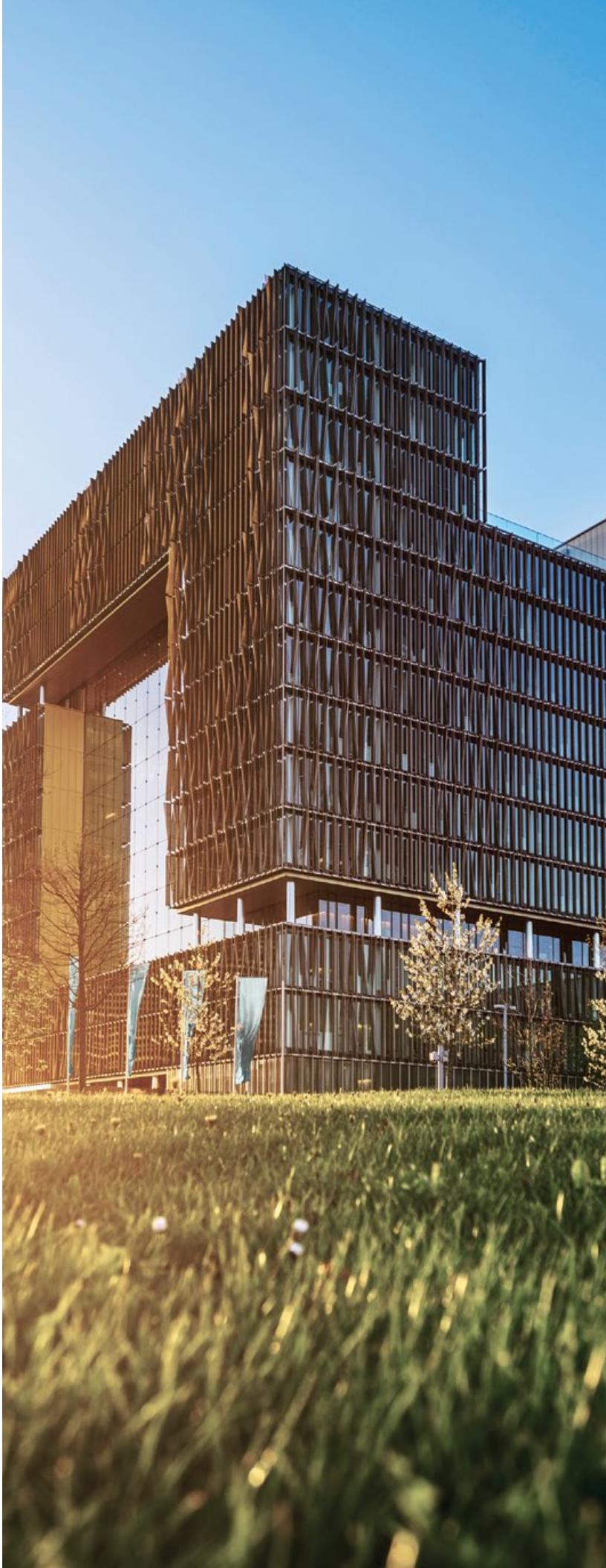
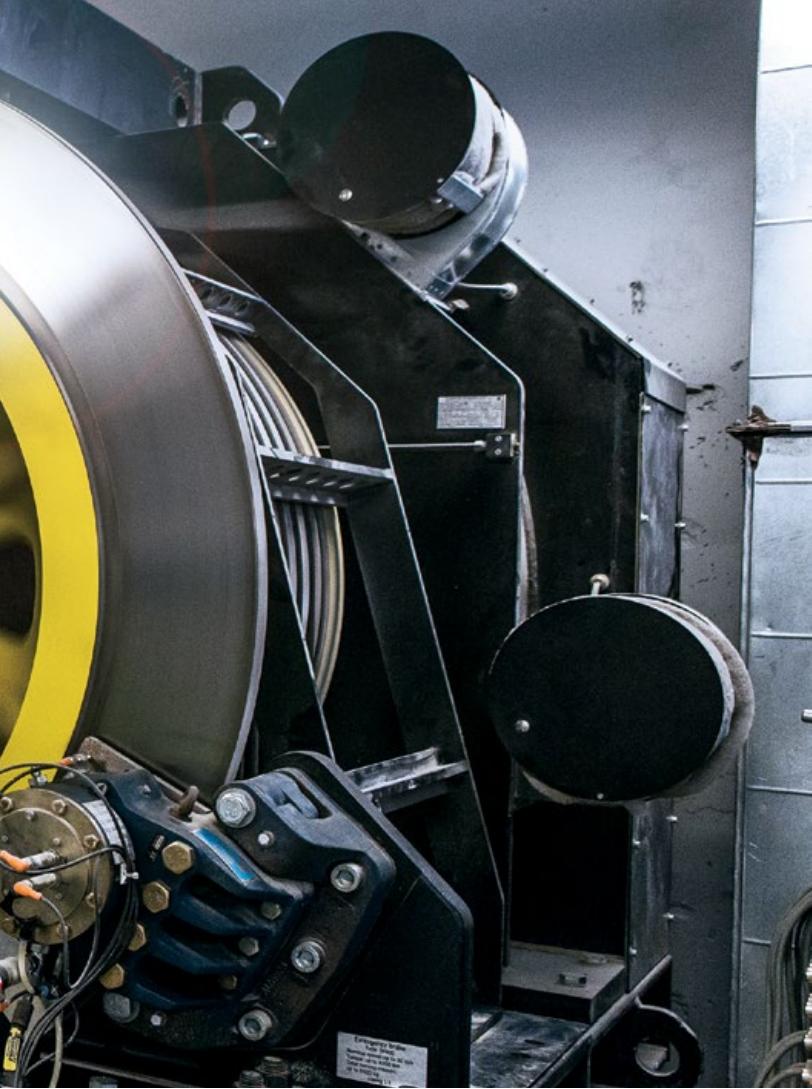
emergency exit equipment with our "first in the industry" evacuation solution that utilizes elevators.

We're also at the forefront of our industry when it comes to sustainability. From elevator products to lighting to LEED-certified manufacturing facilities; we are taking the right actions today for a better world tomorrow.

thyssenkrupp has over 200 LEED professionals to help guide our customers as they build projects with tomorrow in mind.

LEED  
GREEN  
ASSOCIATE

TM



**AGILE**  
Elevator technology

52

**TWIN**  
Elevator system

54

**MAX**  
Predictive maintenance

56

**Occupant**  
Evacuation operation

57

# This is AGILE.

For quicker, smarter,  
more flexible elevators



# Four intelligent elements to enhance your elevators

Introducing AGILE — an innovative family of elevator enhancers from thyssenkrupp designed to make your elevator system quicker, smarter and more flexible.

With smarter elevator operation, you'll be able to make your building more efficient. With customization, you'll be able to make it yours. With flexible security, you'll be able to better control access. With comprehensive data and reporting, you'll be able to make it a better elevator experience for both passengers and management.



The AGILE elevator enhancer solution includes four intelligent elements that can improve performance, enhance aesthetics, reduce traffic and much more.



## Destination Controls

Elevate the efficiency of your current system and move people like never before.



## Design Center

Customize the graphic interface of your kiosks for a richer user experience.



## Security Access

Heighten a new or existing security system with our adaptable, turnkey solutions.



## Management Center

Remotely manage the performance of your system to forecast for the future.

# TWIN

2 Cabs.  
1 Shaft.  
0 Crowds.

## A precise and efficient elevator system.

The TWIN® elevator system has two cars — arranged on top of each other — that operate in one hoistway. Each elevator has its own traction drive, controller, ropes, counterweight and governor. TWIN cabs share the same guide rails and landing doors. The cars move independently in the hoistway. However, they always maintain a minimum safe separation.

TWIN motors are in perfect sync and harmony. They operate independently and efficiently on top of one shaft.

Fully certified by the German TÜV inspectorate — the most stringent and rigorous safety standard an elevator can attain.

# Safety is standard with TWIN

We provide four levels of safety to prevent TWIN cabs in the same hoistway from getting too close to each other.

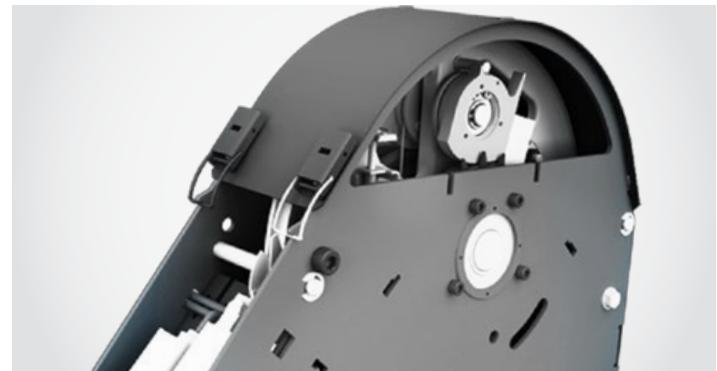


## ① Intelligent allocation of calls

Requests are always distributed by the Destination Controls so elevator cars do not obstruct each other and a minimum distance is always observed.

## ② Emergency stop function

If the safety distance is breached, the system shuts down the drives and activates the brakes, which triggers an emergency stop for both elevator cars.



## ③ Minimum safety distances

The minimum separation is constantly monitored automatically. In order to avoid an emergency stop, the system will stop at the next landing to allow the other car to move on before continuing to its destination.

## ④ Automatic safety gear

The safety gears of both elevator cars are activated in the very unlikely event that the first three safety stages fail or there is an insufficient deceleration of the elevator cars. It is not possible for the elevator cars to make contact.

# MAX

## Predictive Maintenance

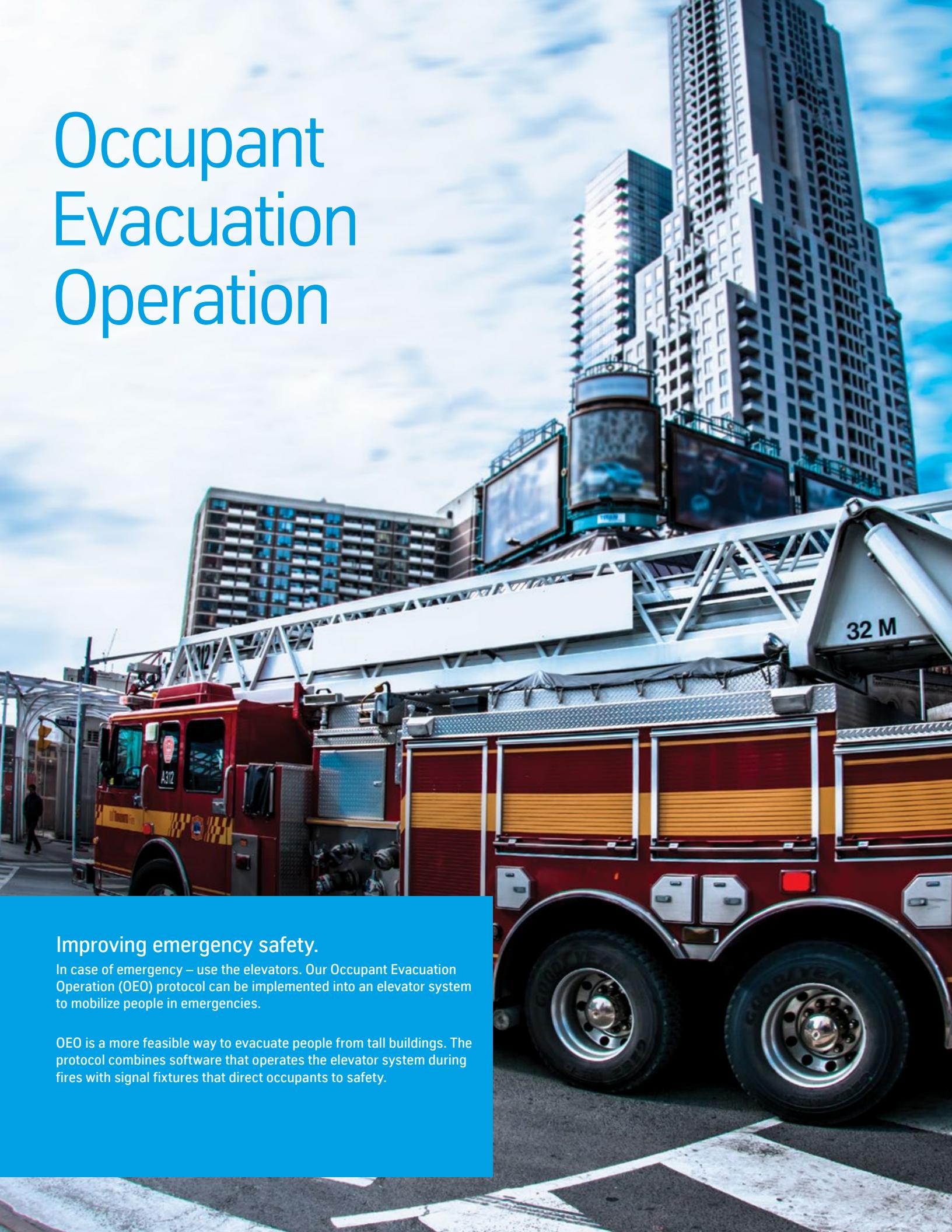


**Prevent problems before they occur.**

MAX is the elevator industry's first real-time, cloud-connected predictive maintenance solution. It alerts technicians to potential problems before breakdowns happen.

The revolutionary technology in MAX can reduce elevator downtime by up to 50 percent.

# Occupant Evacuation Operation



## Improving emergency safety.

In case of emergency – use the elevators. Our Occupant Evacuation Operation (OEO) protocol can be implemented into an elevator system to mobilize people in emergencies.

OEO is a more feasible way to evacuate people from tall buildings. The protocol combines software that operates the elevator system during fires with signal fixtures that direct occupants to safety.

## Elevator Technology

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