

MOMENTUM

Mid- to high-rise elevators



A person wearing a dark jacket with reflective stripes is looking out over a cityscape at sunset. The sky is a mix of orange and purple, and the city buildings are silhouetted against the light. The person's hand is visible, holding a railing or handle.

DELIVERING THE FUTURE OF MOBILITY SOLUTIONS

We look to the future of mobility, and we go over and above to deliver the best products and services that have set us apart since our humble beginnings.

Over the past decades, TK Elevator has established itself as one of the world's leading elevator companies and became independent since its sale by thyssenkrupp AG in August 2020.

As a standalone elevator company, we're showing the way forward – with services, products and cloud-based solutions that understand people's individual relationships with the tools and technologies that move them.

To help customers move beyond what was previously possible, we introduce momentum, our advanced, engineered mid- to high-rise elevator.



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Illustrations and images in this brochure may differ from the installed product. Consult your local representative for more information.

SPEED. INNOVATION. FREEDOM.

Each year, high-rise buildings achieve new levels of sophistication, design and complexity. To match growing demands and expectations, you need an elevator that adapts to your vision as quickly as it moves passengers.

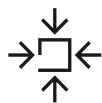
This is possible with momentum.

Our most advanced elevator, momentum combines cutting-edge technology with the creativity of TK Elevator's most experienced engineers. The result is a high-rise elevator that moves with precision and speed, while remaining energy-efficient, reliable and safe.



MOMENTUM

Ideal for most all high-rise buildings.



Fit
Machine room



Travel
Up to 825'-0" for passenger elevators
Up to 300'-0" for service elevator



Speed*
350 – 1200 fpm



Type
Traction



Capacity*
2100 – 5000 lbs

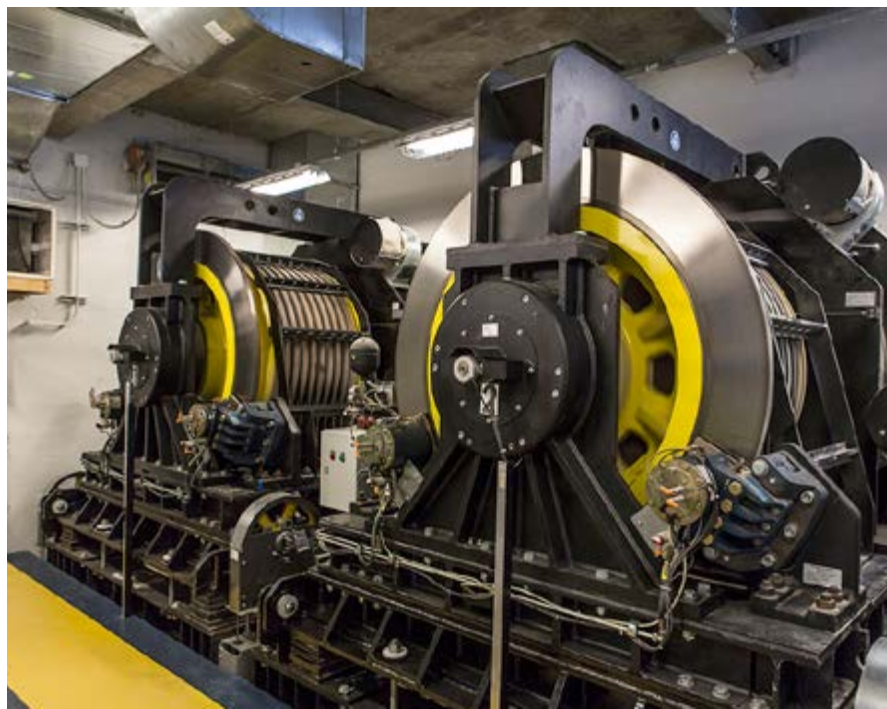
* Speeds and capacities reflect the typical pre-engineered machine room applications. Other speeds and capacities are available if required. Contact your local sales representatives for further engineered product details.

SUCCESS STORIES



One World Trade Center, New York City

Combining customized solutions, TK Elevator engineered and installed 71 elevators and 12 escalators at the 1776-foot One World Trade Center, including the fastest elevators in North America.





181 Fremont, San Francisco

In this 802-foot marvel in downtown San Francisco, TK Elevator installed 14 engineered gearless traction elevators with Destination Dispatch and three engineered hydraulic units. The 14 elevators with Destination Dispatch are the world's first with Occupant Evacuation Operation (OEO) technology, which allow building occupants to use elevators to evacuate during emergencies.





PERFORMANCE.
AESTHETICS.
SAFETY.



Combining fast performance, energy-efficient features and an ultra-safe design, momentum is the ideal elevator for high-rise buildings.

With our stylish cab design options and the ability to use custom features, you can extend your building design into your elevator. Passengers will appreciate the stylish and comfortable cab combined with the smooth and quiet ride.

momentum standard series is available for buildings up to 300 feet. It features a mini-AC gearless motor mounted in a machine room above the elevator hoistway.

For buildings up to 825 feet, momentum performance series is our most powerful, fast and versatile high-rise solution. It can reach speeds of 1200 fpm.

To enhance momentum, you can add AGILE, our innovative family of elevator enhancers. AGILE includes four intelligent elements that make elevators smarter, get passengers to destinations faster, reduce building traffic and improve your building aesthetics. You can improve your building security and enhance the ability to manage the building passenger movement.



With our AGILE enhancements, the typical elevator buttons will disappear from the inside of the car. Just hop on the designated elevator and enjoy your ride to the floor you selected.

An aerial view of a city skyline at dusk, featuring numerous skyscrapers and buildings. The sky is a deep blue with some clouds. Overlaid on the city are several glowing, pink, circular light trails that spiral and loop around the buildings, creating a sense of dynamic energy and connectivity. The text 'MAXIMIZE YOUR UPTIME' is prominently displayed in the upper left quadrant, framed by a stylized L-shaped graphic in red and blue.

MAXIMIZE YOUR UPTIME

Get smarter service and less downtime with MAX

Combining the power of big data and machine learning, MAX continuously collects data about your elevator's components and systems, and sends it to the cloud.

The data is analyzed, and algorithms determine when your elevator will require maintenance from our technicians.

We call this predictive maintenance.

It's revolutionary and can reduce your elevator downtime by up to 50 percent. We're continuously improving MAX, so you can expect its benefits to get bigger and better over time.



MAX sends equipment diagnostic analysis.



Repairs are completed in less time.



MAX works onsite 24/7/365.

POWERED BY ADVANCED TECHNOLOGY

Sophisticated components combine for high-speed performance, energy efficiency and passenger safety.



1 Controller

Our powerful 32-bit microprocessor controller uses solid-state technology, boosting reliability with a proven track record. The non proprietary user interface tool (UIT) provides easy access to adjustments and parameters for maintenance and service.



2 Machine

Our gearless machine delivers high performance, increased efficiency and reduced energy consumption, while eliminating the need for contaminating lubricants.



3 Regenerative drive

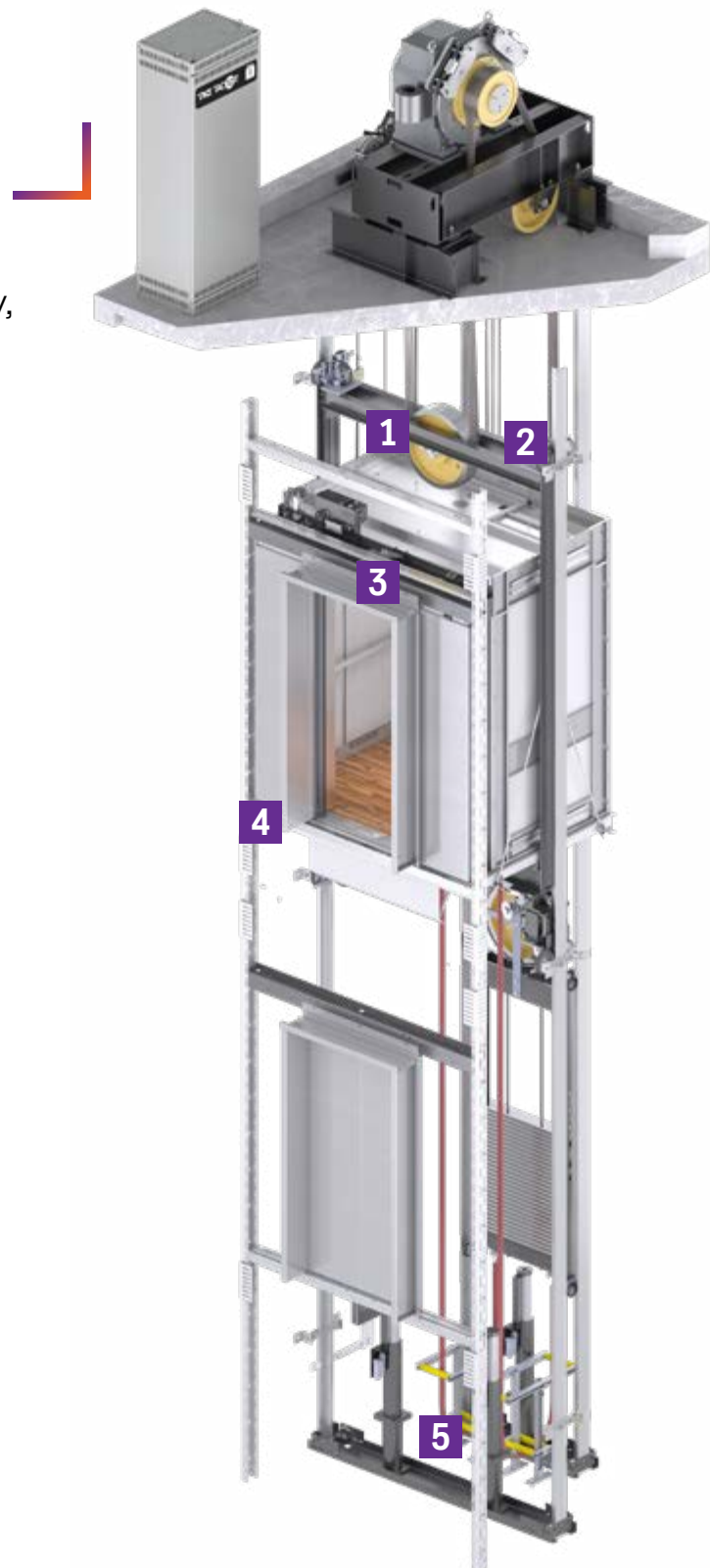
Captures unused energy generated by the elevator and feeds it back into your building grid. It's compact and easy to maintain. For a more quiet and reliable operation, the motor and brake contractors are replaced with SIL3 solid-state devices on specific drive motors up to 60 horsepower. Our patented variable frequency (VVVF) drive motors offers smooth acceleration and deceleration.

4 Battery auto rescue operation (optional)

In a power outage, elevator passengers are transported to the nearest floor, either up or down, and doors will open so they can get out. This rescue system drives the elevator car from the controller's UIT.

REMARKABLE RIDE QUALITY

To achieve smooth and precise ride quality, momentum incorporates the latest code-compliant components.



1 Overslung design

Helps provide better ride quality and performance.



2 Roller guides

Quality guide systems are critical for high-speed elevator performance. Our high-quality, spring-loaded roller guides for the car ensure car movement is smooth, quiet and ultra-precise.



3 Universal door operator

Malfunctioning doors are the leading cause of elevator service calls. This new technology provides door reliability as well as quick and smooth door operation.



4 Absolute positioning system

Precisely measures your elevator's speed and positioning. This promotes accurate floor leveling, helping ensure passenger safety.



5 Rope and chain compensation

Car and counterweight slings along with other equipment on high-speed cars are substantially heavier than standard elevator products. This excess weight can affect balance, so ropes or whisperflex (chain) compensation are used to provide counterbalance. They also create equal load distribution on the drive, sheave and motor, regardless of

the car's hoistway position. Chain compensation is installed if travel is less than 360 feet and desired speed is less than 700 fpm.

If the requirement is greater than 360 feet or 700 fpm, then the rope compensation will be installed.



Chain compensation



Rope compensation

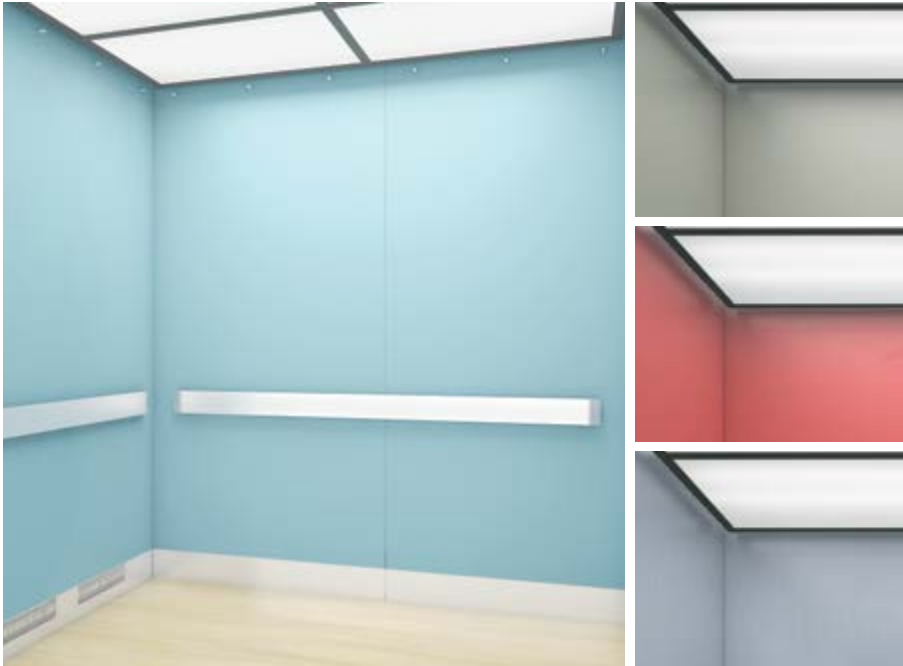


SIMPLE YET SOPHISTICATED

Our cab and finish options let you personalize your elevator interior. Just like you want to.

Pictured above: Graystone plastic laminate vertical applied panels with downlight ceiling. Floors by others.

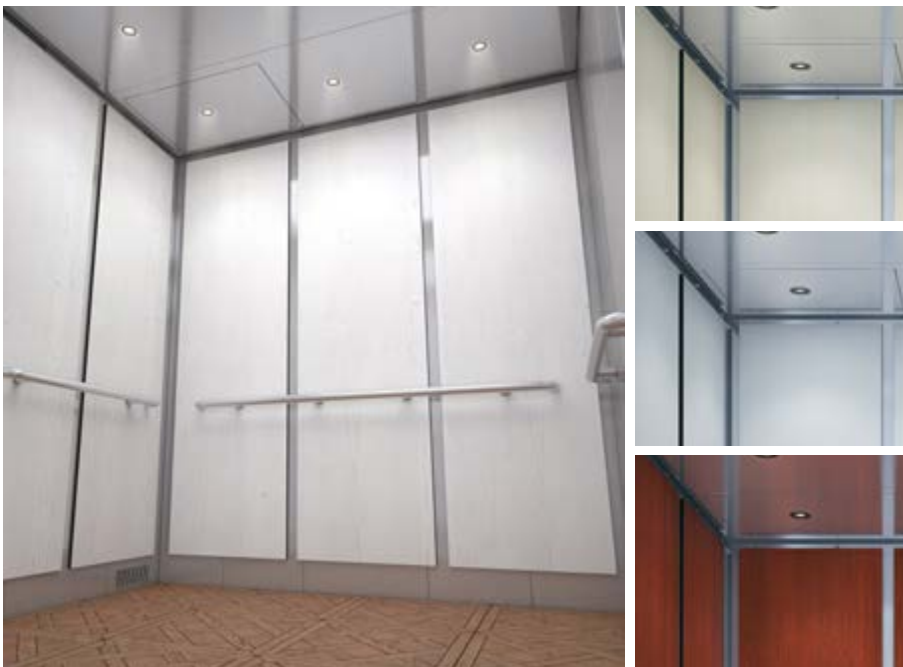
Standard cab designs



Steel shell wall design

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

Upgraded cab designs



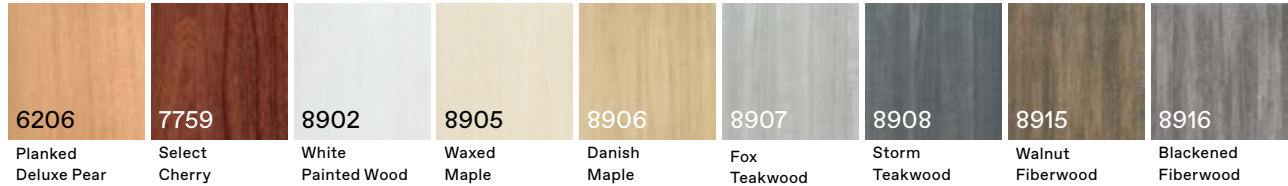
Steel shell wall with applied panel design

Mix beauty and practicality with this decorative and durable cab. The panel design is constructed with a high-quality steel shell and vertical or horizontal raised panels made with a core of urea formaldehyde-free wood.

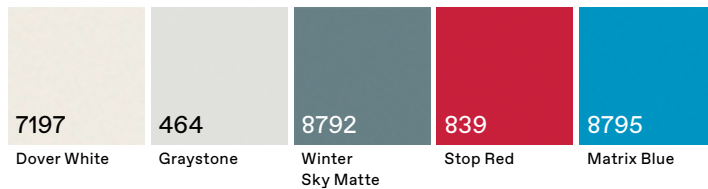
Finishes

Plastic laminates

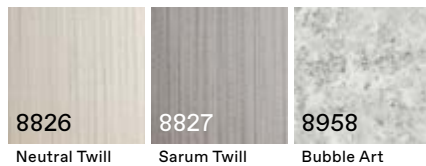
Woods



Solids



Patterns




Powder Coats



Metals



¹ Limited application. Contact your local representative for details.

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

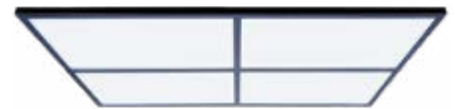
Cab accessory options



Ceilings



Basic flat
Exposed cab top with optional recessed lighting.



Suspended
White translucent diffusers with ceiling frames.



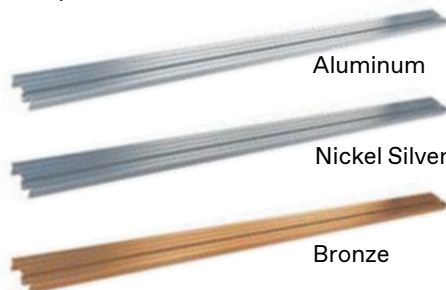
Downlight¹
Metal pan downlight ceiling features LED lighting with six or nine lights (based on cab size.)

Braille plates

- Option 1:** Resin braille plate
- Option 2:** Surface mount cast braille plate
- Option 3:** Flush (inlaid) mount cast braille plate

Sills

Our cab sill finishes allow you to match your sills to any other design component inside the cab.



Handrails

Cylindrical

1½" cylindrical handrail is a continuous metal form with ends turned toward the wall. We also offer straight end caps. Comes in stainless steel finish.



Flat bar

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



¹ Lighting options may vary depending on cab size.

⚠ Illustrations vary based on configurations.

Fixtures and returns

Traditional fixtures

Product details

- Faceplate in muntz, brushed or polished stainless steel
- Position indicator displays car location with matrix of red or blue LED-illuminated dots



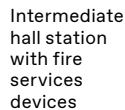
Combo hall lantern and position indicator with directional arrows



Intermediate hall lantern with arrows



Intermediate hall station



Intermediate hall station with fire services devices



Car operating panel



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

Vandal-resistant fixtures

Product details

- Faceplate in muntz, 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
- Position indicator displays car location with matrix of red or blue LED-illuminated dots



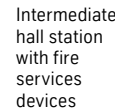
Combo hall lantern and position indicator with directional arrows



Intermediate hall lantern with arrows



Terminal hall station



Intermediate hall station with fire services devices



Car operating panel



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

Front returns

Wrap-around returns

This return features a hinged car operating panel and separate filler panel. Comes standard.



Fixtures shown on this page are for representation only. Your project-specific application may vary.

Column returns

This return features a hinged car operating panel secured to the filler panel and aligned vertically with the column.



Full-width wrap-around returns

This return features a hinged car operating panel with integral column and filler panel. The swing extends from the cab opening to the cab wall.



Front returns include the car station, return panel, signal fixtures and head jamb. Images above represent return types in brushed stainless steel.

Entrance options

Hoistway and door entrance finishes

Typically, the entrance frame would match the door selection, but nothing says you have to. Choose from any powder coat color or metal finish.



Powder coat finish
T-style entrance frame in Blue Patina powder coat.



Metal finish
T-style entrance frame in #4 Brushed Stainless Steel.



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

One-speed

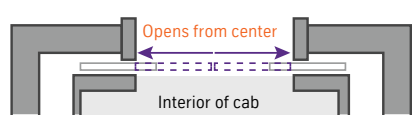
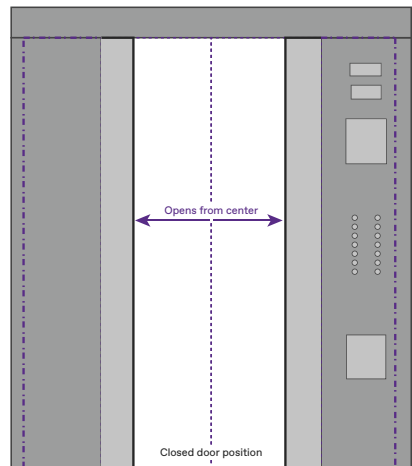
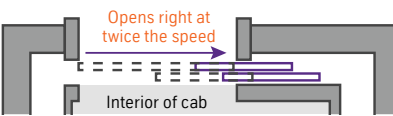
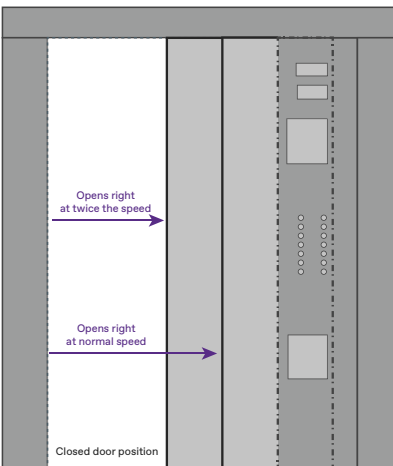
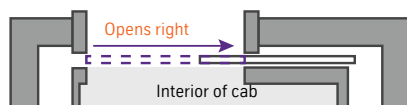
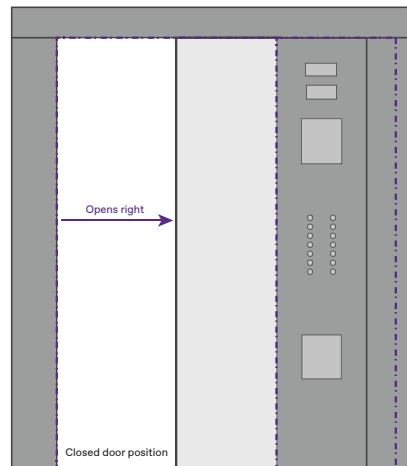
The most economical door offering, available with either right- or left-hand opening. (right-hand shown)

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)

Center opening

Best for high traffic buildings. Permits the quickest entry and exit, improving elevator service while giving an attractive, symmetrical appearance.



AS UNIQUE AS YOUR BUILDING

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.





Custom walls



Custom ceilings



Custom handrails

Use the materials and colors of your choice.

Complement your décor or make a design statement.

PLANNING

Momentum elevator applications



Passenger elevator



Service elevator

At a glance



Travel
Passenger up to 825'-0"
Service up to 300'-0"



Type
Traction



Speed*
350 - 1200 fpm



Capacity*
2100 - 5000 lbs

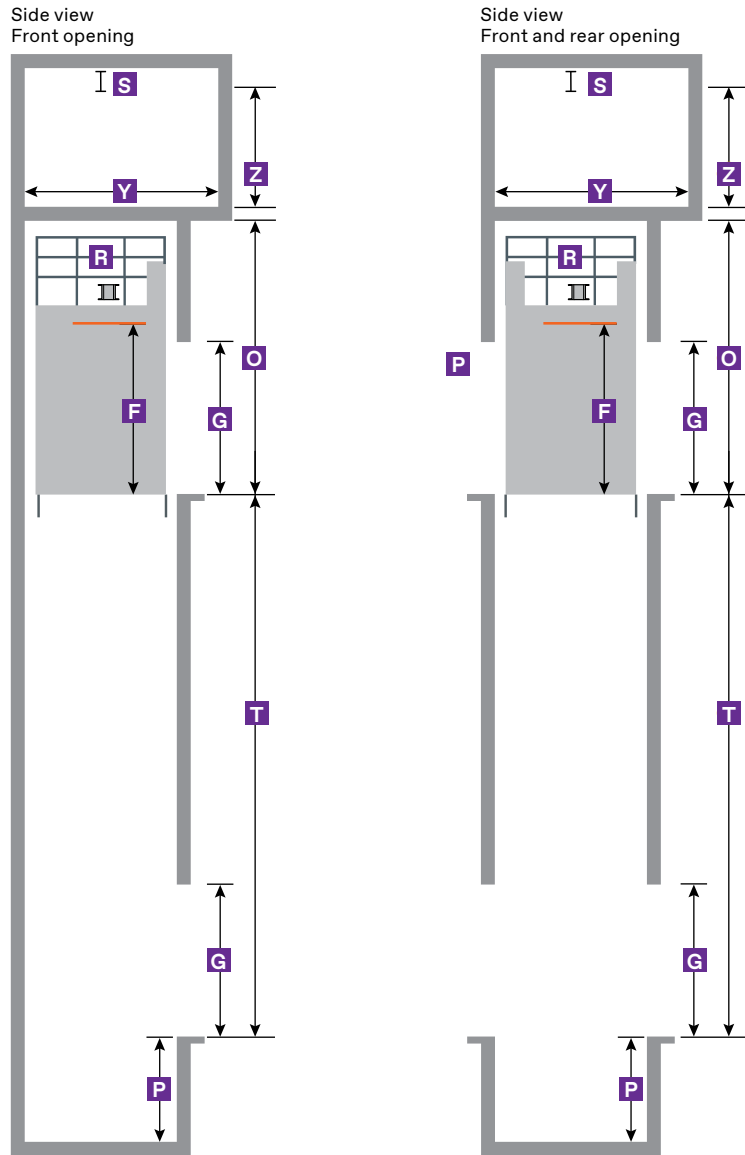


Fit
Machine room-less

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

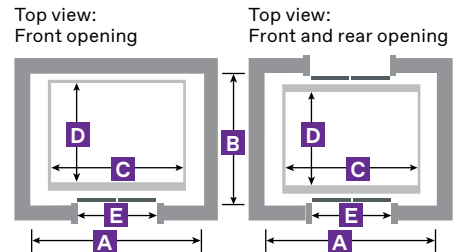
Momentum

Passenger elevators – standard and performance

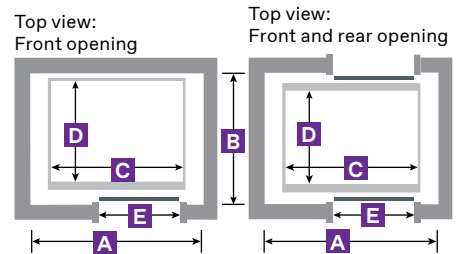


- A** Hoistway width
- B** Hoistway depth
- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- H** Minimum overhead
- I** Minimum pit depth
- J** Car top railing
- K** Safety beam
- L** Travel
- M** Machine room depth
- N** Machine room height

One-speed center opening doors



One-speed side opening doors



- F** Inside clear height: 7'-4"⁵
- G** Door clear height: 7'-0"
- O** Minimum overhead:⁸
 - 350 fpm: 15'-3" 1000 fpm: 24'-8"
 - 500 fpm: 16'-6" 1200 fpm: 27'-2"
 - 700 fpm: 20'-0"
- P** Pit depth:^{8, 9, 10}
 - 350 fpm: 5'-0" 1000 fpm: 13'-4"
 - 500 fpm: 6'-6" 1200 fpm: 22'-6"
 - 700 fpm:
 - Up to 360' travel – 6'-6"
 - Over 360' travel – 11'-1"
- T** Max travel possible: 825'-0"¹
- S** Safety beam required per OSHA 1926.502⁶
- Y** Minimum machine room depth:
 - Standard: 16'-0" Performance: 18'-0"**
- Z** Minimum machine room height:
 - Standard: 7'-6" Performance: 9'-8"**

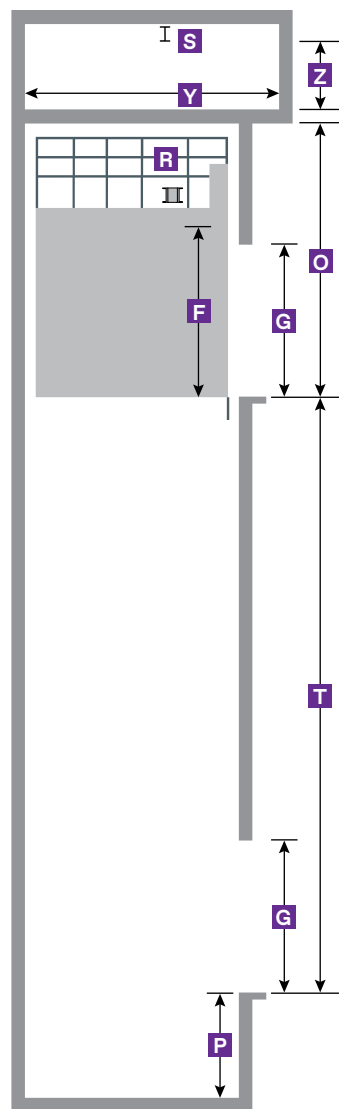
Passenger elevators		(P) Performance speed and travel available			
Capacity (lbs)	Hoistway A x B	Front/rear	Inside clear C x D	Door type	Door width E
2100 ²	7'-4" x 6'-8" ⁷	F	5'-8" x 4'-3"	One-speed	3'-0"
2500 ^(P)	8'-4" x 6'-8" ⁷	F	6'-8" x 4'-3"	One-speed	3'-6"
2500 ³	9'-4" x 6'-8¾" ⁴	F/R	6'-8" x 4'-3½"	One-speed	3'-6"
3000 ^{3 (P)}	8'-4" x 7'-2" ⁷	F	6'-8" x 4'-9"	One-speed	3'-6"
3000 ³	9'-4" x 7'-2¾" ⁴	F/R	6'-8" x 4'-9½"	One-speed	3'-6"
3500 ^{3 (P)}	8'-4" x 7'-10" ⁷	F	6'-8" x 5'-5"	One-speed	3'-6"
3500 ³	9'-4" x 7'-10¾" ⁴	F/R	6'-8" x 5'-5½"	One-speed	3'-6"
4000 ^{3 (P)}	9'-4" x 7'-10" ⁷	F	7'-8" x 5'-5"	One-speed	3'-6"/4'-0"

Contact your local representative for various code or jurisdictional exceptions, or alterations required. See endnotes on page 27.

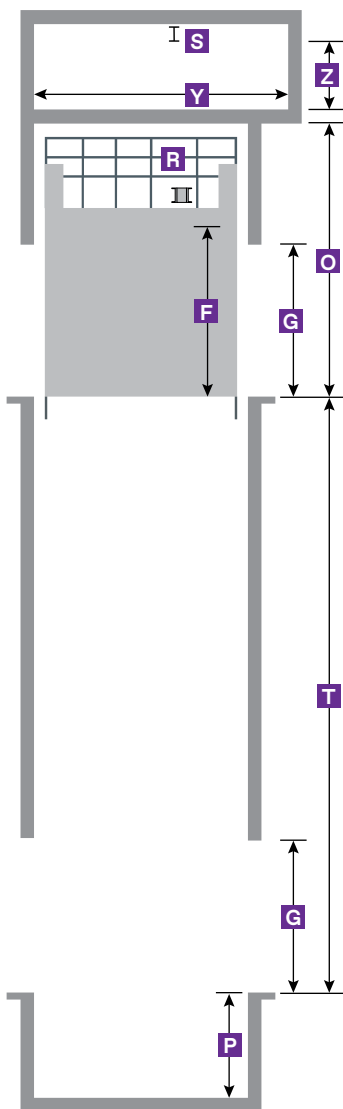
Momentum

Service elevators

Side view
Front opening



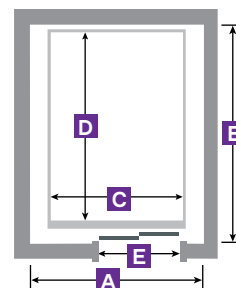
Side view
Front and rear opening



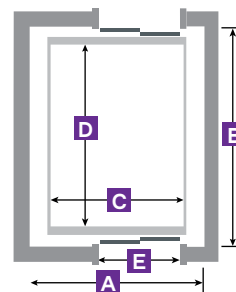
- A** Hoistway width
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- C** Inside clear width
- D** Inside clear depth
- E** Door clear width
- F** Inside clear height
- G** Door clear height
- O** Minimum overhead
- P** Minimum pit depth
- R** Car top railing
- S** Safety beam
- T** Travel
- Y**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

Two-speed side opening doors

Top view:
Front opening



Top view:
Front and rear opening



F Inside clear height: 7'-4" ⁵

G Door clear height: 7'-0"

O Minimum overhead: ⁸
350 fpm: 15'-0"
500 fpm: 16'-6"

P Pit depth: ^{8, 9, 10}
350 fpm: 5'-0"
500 fpm: 6'-6"

T Max travel possible: 300'-0" ¹

S Safety beam required per OSHA 1926.502 ⁶

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

Z Minimum machine room height: ¹³
Standard: 7'-6"

Service elevators

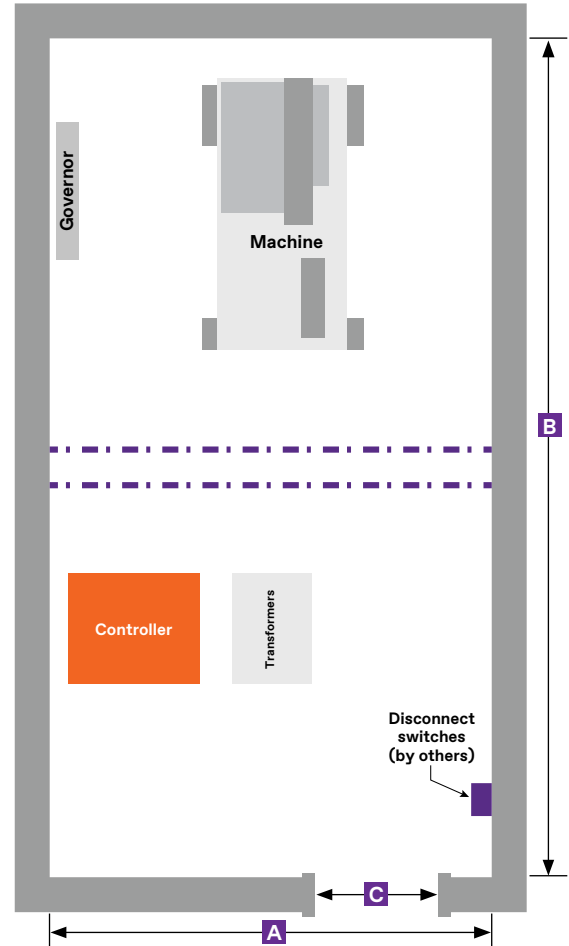
Capacity (lbs)	Hoistway ^{11, 12} A x B	Front/rear	Inside clear C x D	Door type	Door width E
4500	8'-1" x 9'-8"	F	5'-8" x 7'-9½"	Two-speed	4'-0"/4'-6"
4500	8'-1" x 10'-9¼"	F/R	5'-8" x 7'-10"	Two-speed	4'-0"/4'-6"
5000	8'-1" x 10'-2"	F	5'-8" x 8'-5"	Two-speed	4'-0"/4'-6"
5000	8'-1" x 11'-4¾"	F/R	5'-8" x 8'-5½"	Two-speed	4'-0"/4'-6"
5000H	8'-4" x 10'-9"	F	5'-8" x 9'-0"	Two-speed	4'-0"/4'-6"
5000H	8'-4" x 11'-11¼"	F/R	5'-8" x 9'-0½"	Two-speed	4'-0"/4'-6"

Contact your local representative for various code or jurisdictional exceptions, or alterations required. See endnotes on next page.

Machine rooms

Machine room dimensions ¹³

Speed	Capacity	Width	Depth	Door width
350, 500	2100	7'-4"	16'-0"	3'-0"
350, 500	2500	8'-4"	16'-0"	3'-0"
350, 500	3000	8'-4"	16'-0"	3'-0"
350, 500	3500	8'-4"	16'-0"	3'-0"
350, 500	4000	9'-4"	16'-0"	3'-0"
350, 500	4500	8'-1"	19'-0"	3'-0"
350, 500	5000	8'-1"	19'-0"	3'-0"



Endnotes

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

¹ Higher travel, faster speed, and higher capacity available.

² This capacity is not available with center opening doors.

³ To achieve IBC stretcher compliance, 2500, 3000, 3500 and 4000 car load capacities can accommodate an 84" ambulance stretcher. However, this is dependent on cab and door configurations. We also offer 4500 and 5000 lbs car capacities with no configuration restrictions. Contact your TK Elevator representative for details.

⁴ For seismic conditions, add 4" to hoistway width.

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

⁶ Provided and installed by others, as directed by the local TK Elevator office. Minimum machine room height is shown to the bottom of the safety beam.

⁷ 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.

⁸ Minimum overhead and pit can be reduced in some cases, consult your TK Elevator representative if required.

⁹ Occupied space below the pit increases hoistway size.

¹⁰ For up to 700 fpm, chain compensation available up to 360'-0" of travel.

Rope compensation is required if either 700 fpm or 360'-0" is exceeded.

¹¹ For multiple elevators: Add 4" for a divider beam between hoistways.

¹² For out-of-plumb allowances, an additional 1" is recommended to be added to the hoistway dimensions shown, for the first 100 feet of travel. Above 100 feet of travel, an additional 1/2 of an inch is to be added for each additional 10 feet up to a maximum of 2".

¹³ Dimensions for momentum single car (structural slab) non-seismic, front only, smallest door width choice.

ENHANCE EFFICIENCY. REDUCE TRAFFIC.

Upgrade your elevators — and your building — by adding AGILE. Our Destination Dispatch solution combines four intelligent elements that improve elevator performance, enhance passenger experiences, reduce building traffic and increase your building security.

AGILE groups passengers together who are traveling to similar floors, resulting in 25 percent faster travel time. The technology also lets you make data-driven decisions to manage your elevator performance.

It integrates with your building's security system or can function as a standalone system. You're also set for future upgrade opportunities with built-in cameras and RFID readers.

AGILE is available on any momentum product, engineered or not. Contact your local sales representative for further details.



With a wide variety of design options to choose from, you can create a unique look that reflects your building and tenants.

FOUR INTELLIGENT ELEMENTS TO ENHANCE YOUR ELEVATORS



AGILE Destination Controls

Better passenger experiences

Groups passengers traveling to similar floors together. The result? Shorter ride times, fewer stops and less building congestion. Tenants will love it.



AGILE Design Center

Touchscreens direct passengers to destinations

Lets you customize the touchscreen kiosks passengers use to select their floor. You can choose our graphics and backgrounds or use your own. No design skills needed.



AGILE Access

Increase your elevator and building access

Safety matters. AGILE integrates with your building security system, operates as a standalone system and can be used as a card reader to provide floor access. You can control your desired access to specific floors.



AGILE Management Center

Make data-driven decisions to manage performance

AGILE collects data from momentum. You can use this data to make smarter decisions and adapt to tenant requests. It's all about optimization.

AGILE is not limited only to the engineered momentum product.

OCCUPANT EVACUATION OPERATION



TK Elevator is the first elevator company to successfully install Occupant Evacuation Operation (OEO) technology in a customer product.

OEO-enabled elevators can be used by building occupants during building emergencies. They provide a faster evacuation method than stairwells, which are traditionally used to evacuate in an emergency.

OEO is designed to reduce the panic and confusion associated with emergencies, and to better accommodate individuals challenged by age, poor health or limited mobility.

How OEO works

When an emergency occurs, building alarm systems activate OEO-enabled elevators and provide audible instructions to floor occupants. The elevators then prioritize evacuation by specific zones; in a total building evacuation, floors farthest from the discharge level have priority.

Each elevator car visually and audibly communicates with passengers on how to proceed through a Variable Message System (VMS) while hall station screens communicate elevator service status for passengers in the hallway.



RESPONSIVE SUPPORT. ALWAYS AVAILABLE.

TK Elevator's expert service keeps your equipment running safely and efficiently.

As a service provider, we take care of your elevators and escalators so you can focus on your building and its tenants. We do this while keeping you alerted and informed.

With more than 150 branches across the U.S. and Canada, our service technicians are never far from your buildings — and they're available day and night.

You can always count on our:

- Highly-trained service technicians, experts in TK Elevator and third-party (OEM) products
- Professional supervision and account management
- 24/7 emergency service capability
- Customer Portal, an online tool for managing your account and placing service requests
- Cloud-based predictive maintenance solution, MAX, which dramatically improves elevator uptime
- MAX Digital Services packages, which provide personalized digital tools that enable enhanced elevator service and building management



TK Elevator Corporation
788 Circle 75 Parkway SE
Suite 500
Atlanta, GA 30339
P: +1 844 427 5461
www.tkelevator.com/us-en



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