## Elevator Technology

Ukraine

Kraft Aufzuege Ukraine LLC

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

## Our competence in Asia Pacific

thyssenkrupp Elevator AG Asia Pacific Office is the regional office for Asia Pacific and the Middle East. It has a strong presence in local markets with manufacturing facilities in China, South Korea and India, plus a dense

network of branches and offices in these same countries, Southeast Asia, Australia and the Middle East, offering new installation, modernization and service business for the complete product range.

## thyssenkrupp – the diversified industrial group

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

Find out more: www.thyssenkrupp.com









Dubai Int'l Airport

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







## **Compact and practical**

With its compact size, enta200 is a machine room-less elevator that is suited for low-rise buildings, such as high-end residential and mid-end commercial buildings. It offers stylish and practical car interior designs to give its passengers a comfortable ride.

## **Designed for**

- High-end residential buildings
- Mid-end commercial buildings

## **Specification**

- Max. travel height:45m
- Rated speed:1.0m/s 1.5m/s
- Max. number of floors: ≤15
- Rated load: 320kg-1,000kg

# **Compact and practical**



## Space efficient

Compact design optimises shaft dimensions, resulting in smaller hoistway, reduced overhead and pit.



## Safe and reliable

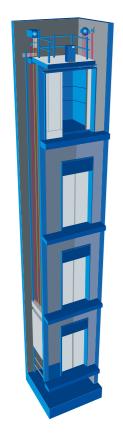
Stringent product design based on thyssenkrupp German standard ensures the highest degree of passenger safety.

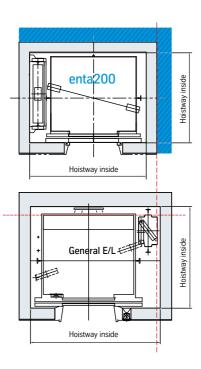


## Inspiring designs

Design with innovative materials and finishes enhance space efficiency while providing a spacious atmosphere.

# Space efficient





The use of enta200 reduces construction cost and increases rental earnings through its compact design and shaft dimension optimization.

# Reduced construction cost and increased rental earnings

Machine room-less (MRL) - No machine room is required which maximizes space efficiency, thus lowering building cost.

Hole-free top beam provides a hassle-free construction project -No sleeving required to install the machine room at the top of the hoistway, no hard construction work at the outer car wall, no refilling after completion of hoistway construction work.

# Compact in size with a high performance component

Compact door equipped with PM motor.

Compact motor with strong power drive.

Energy-saving with less electric power consumption.

Equipped with automatic speed controller with a speed reduction gear free induction motor.

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# Safe and reliable



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

#### Training

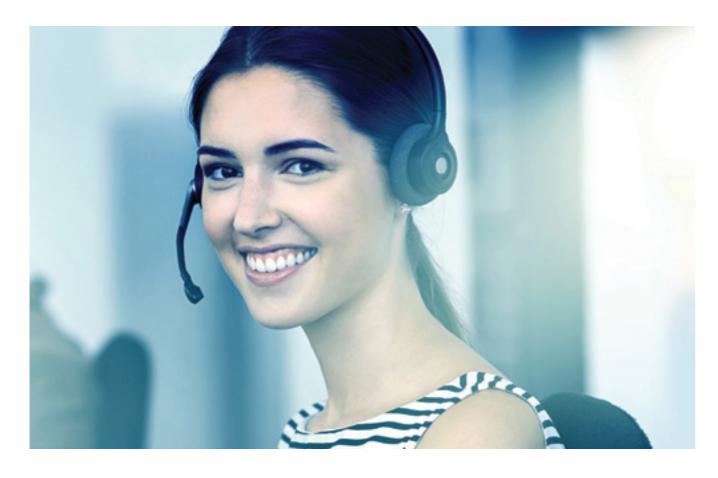
Our technicians are trained to work to the highest safety standards and adhere to stringent safety rules. thyssenkrupp's TEAMService and SEED Campus, the thyssenkrupp Elevator training institution, assures that our team is continuously and systematically trained to deliver the high quality services you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

#### Solutions

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

### Design

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



## Installation

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

#### Systematic project management

Utilize mobility devices to provide real-time project management and reporting to ensure timely installation.

#### Professional installation

Utilize vigorous process to select installation teams. Staff are graded on 7 levels. Installation teams are regularly trained and put through stringent tests to qualify them on proven methodology.

#### Comprehensive quality control system

In-process checks and quality assurance to ensure qualitative and safe installation.

## Service

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

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

#### Prescriptive maintenance

Offered through a variety of service agreements that ensure a consistent, proactive, and predictable process which you can rely on. Our team is trained to eliminate maintenance problems.

#### Smart tools

Our network of engineers is well-equipped with intelligent tools to keep passengers moving.

#### Skilled team

Every engineer is very well-trained to deliver quality work on time.



# **Inspiring design**

enta200 comes with spacious car interior designs that meet various building and application needs.

Designed by our Korean design team, enta200 offers 5 inspiring design concepts that use innovative materials and finishes that are suitable for various building applications.

# Cabin design

## Milano

Cozy and refined atmosphere in a sophisticated European style and modern design.



## Cabin design

Ceiling FX-01

STS mirror, Hi-Vib, Hi Touch (Gold) Wall

STS mirror, Hi-Vib, Hi-Bead, Laser cutting (LM-20VB) Door

COP DS-E-TT22G

HRE-01E Handrail

Floor Decotile (DTE2991, DTE2242)



- This cabin is provided as design package.
- For stainless steel, Neometal is used as standard.
- Air cleaner is provided as option.





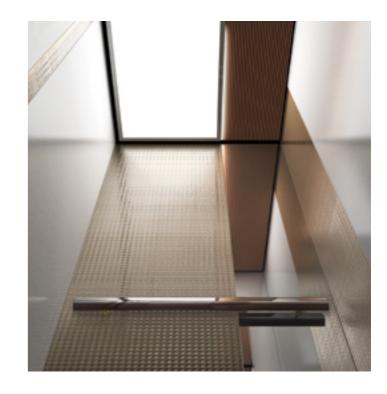




HRE-01E







## Manhattan

Modern and dynamic design with proactive developmental atmosphere symbolizing business success.



## Cabin design

Ceiling FX-03

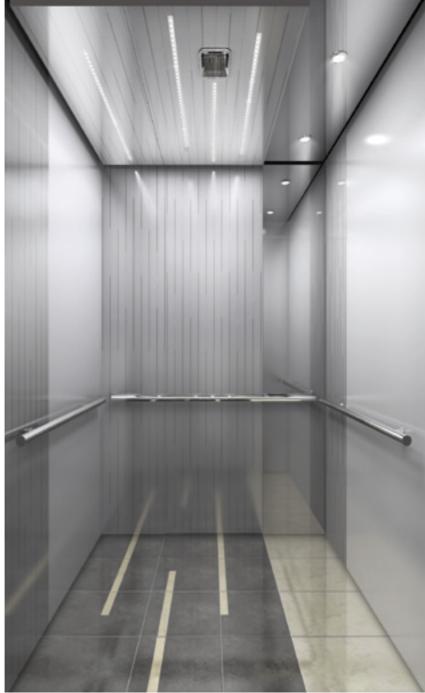
STS mirror, Hi-Vib, Hi Touch (Rain) Wall

STS mirror, Hi-Vib, Laser cutting (LM-21V) Door

COP DS-B-TK77

HRE-01A Handrail

Floor Decotile (DTE2494, DTE2905)

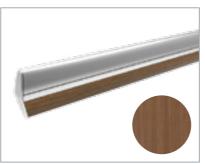


- This cabin is provided as design package.
- For stainless steel, Neometal is used as standard.
- Air cleaner is provided as option.

















# Bellagio

Modern classical style and high-level design featuring profound elegance with the harmony of traditional and contemporary beauty



## Cabin design

Ceiling FX-04

STS mirror, Hi-Vib, Vernox (Bronze) Wall

STS Ti-Bronze mirror, Nano etching (NE-02B) Door

COP DS-A-TT22 HRE-01A Handrail

Floor Decotile (DTE2251, DEW5781)



- This cabin is provided as design package.
- For stainless steel, Neometal is used as standard.
- Air cleaner is provided as option.





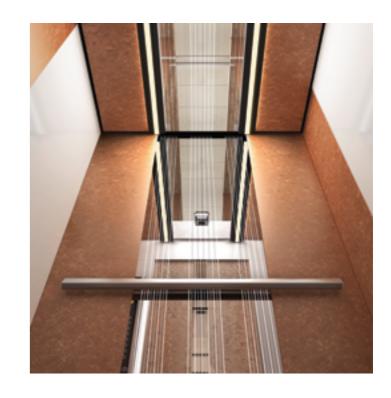








HRR-01G



## Inca

A design that combines a brown colour with a calm and warm feeling and a luxurious repeating pattern.



## Cabin design

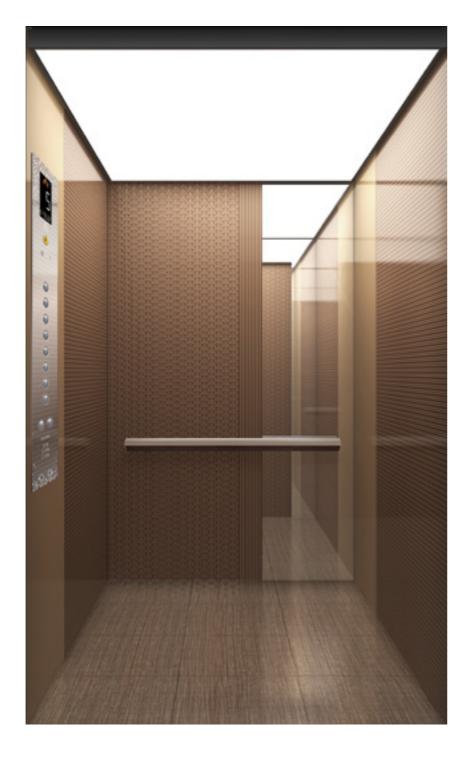
Ceiling GX-02

Wall

Silk metal (SP-04BR), Silk metal (SP-05BR) Door Silk metal (SP-04BR)

DS-N-TK77 COP Handrail HRE-01A

Decotile (DTE2992) Floor

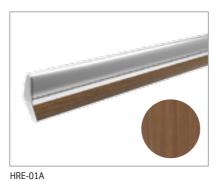


- This cabin is provided as design package.
- For stainless steel, Neometal is used as standard.





# Handrail



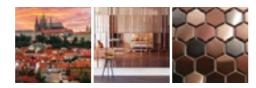




HRR-01G

## Praha

Inspired by the red city from the Prague Square, it's a classic design with elegance.



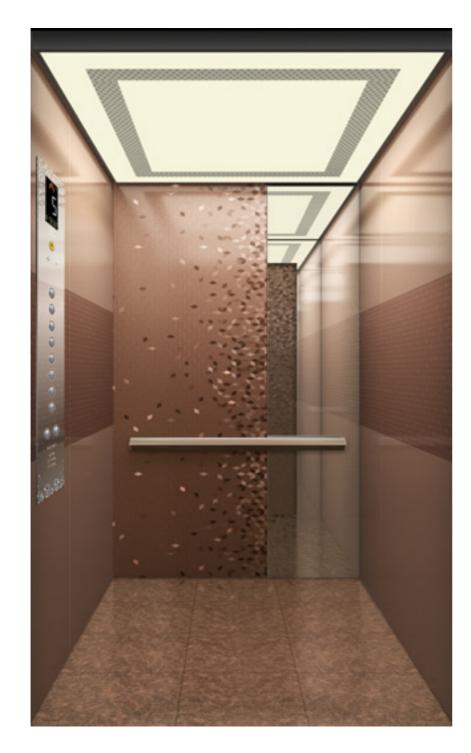
## Cabin design

Ceiling GX-03

Wall Silk metal (SP-08BZ), STS mirror, NFA-01 Door Silk metal (SP-07BZ)

COP DS-N-TK77 Handrail HRE-01A

Floor Decotile (DTE2262)



- This cabin is provided as design package.
- For stainless steel, Neometal is used as standard.





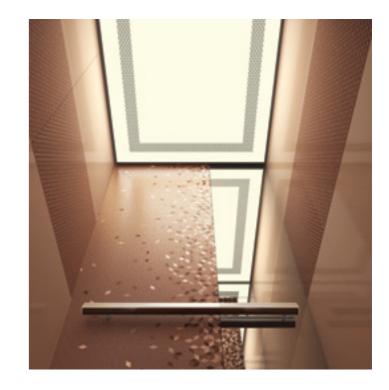
Rear viev



HRE-01A



HRR-01G



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# Hall door options

## Milano

Door STS mirror, Hi-Vib, Laser cutting (LM-20V)

Transom Hi-Vib (Main)
Jamb STS mirror

Hall button BSM-TK77G (Main) BSM-TK77GD (Other)

Indicator HD-S-30D





## Manhattan

Hall button

Door STS mirror, Hi-Vib, Laser cutting (LM-21V)

Transom Hi-Vib (Main)
Jamb STS mirror

BSM-TK77G (Main) BSM-TK77GD (Other)

Indicator HD-S-30D





## Bellagio

Door STS Ti-Bronze mirror, Nano etching (NE-02B)

Transom Hi-Vib (Main)
Jamb STS mirror
Hall button BSM-TT44A (

BSM-TT44A (Main) BSM-TT44AD (Other)

Indicator HD-S-30D





## New Fine ART NFA-01

Door NFA-01

Transom STS mirror (Main)
Jamb STS mirror

Hall button BSK-TK77B (Main) BSK-TK77BD (Other)

Indicator HD-S-20D





# Hall door options

## New Fine ART NFA-03

Door NFA-03

STS mirror (Main) Transom Jamb STS mirror

BSK-TK77B (Main) BSK-TK77BD (Other) Hall button

HD-S-20D Indicator





### Inca

Indicator

Door Silk metal (SP-03BR) STS ART Hairline Transom Jamb STS ART Hairline BSK-TK77B (Main) Hall button BSK-TK77BD (Other)

HD-S-20D





## Praha

Door Silk metal (SP-07BZ) Transom STS ART Hairline (Main) STS ART Hairline Jamb BSK-TK77B (Main) BSK-TK77BD (Other) Hall button HD-S-20D Indicator





# **Premium fixtures**





# Design features



## Slim look

Design highlight the sense of dimension and proportion.



### Touch button

■ Simplified UP/DOWN graphic design and state-of-the-art touch button in constractvoltage system.





### Push button

Sapphire-white coloured and round shape button.

Unlike conventional flat-design products, the hall button enhances the perfection by emphasizing the unity feel with aero-dynamic slim design and harmonized look.

# Landing operating panel / Indicator







■ Inca and Praha can only use Black push type LOP (BSK-TK77B & BSK-TK7780).

# **Fixtures**

# Select your color in daily lifestyle

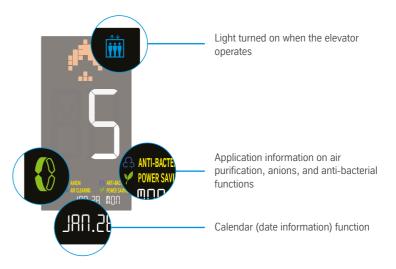
- 1. Chic black COP balanced with glamourous pattern and classical elegance DS-A-TT22 / Touch button (Option) (Tempered glass)
- 2. Clean and luxurious COP in mirror material providing open and lightful atmosphere DS-B-TK77 / Push button (STS mirror laser graphics)
- 3. Milky white COP in champagne gold and white-coloured anodizing aluminium DS-E-TT22 / Touch button (Option) (Tempered glass) exclusively for MILANO
- 4. Sleek COP in mirror material convey a bright and clear atmosphere Mounted type / Push button (STS mirror laser graphics)



Option 4 is mounted type COP which can be applied to Inca and Praha.

# Full color LCD display

White coloured font and colourful graphics with refined black face gives clear information.



# COP assisting the disabled

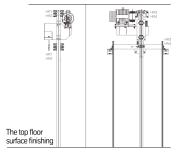
Stainless steel mirror and black acrylic split into two-tone design concept.



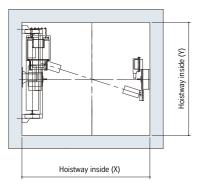
HAS-B-TK77

# Machine room-less model

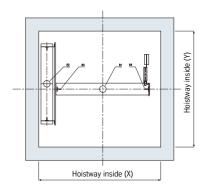
## Overhead Sections



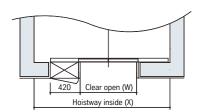
### Overhead Floor Plans



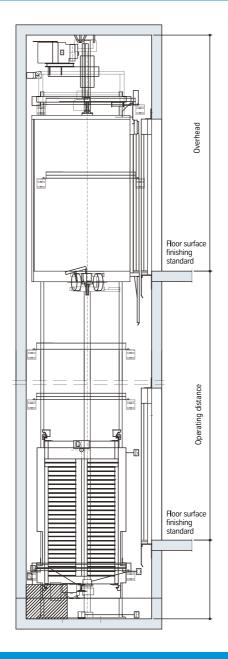
#### Pit Floor Plans



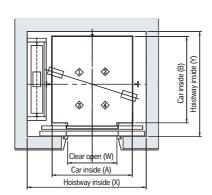
Details Map of the Three-Sided Top Floor



### Hoistway Sections



### Hoistway Floor Plan



Standar	rd Size (Minimum Siz	e) & Power Capa	city					
Speed (m/s)	Passenger Capacity	Loading Capacity (kg)	Door Size (mm)	Car Inside Size (AxB)(mm)	Hoistway Inside Size (XxY)(mm)	Motor Capacity (KW)	MCCB Capacity	HOOK Application Load
	4	320	700x2100	850x1000	1600x1350	2.8		
	6	450	800x2100	1000x1200	1750x1500	4	20 -	1500 kg
	8	550	800x2100	1100x1250	1800x1560			
1.0	9	630	800x2100	1100x1400	1800x1710			
1.0	11	750	800x2100	1300x1400	1930x1710	- - 6.3		3000 kg
	13	900	900x2100	1600x1350	2200x1660			
	15	1000	900x2100	1600x1400	2200x1710			
	15 (Deep car)	1000	800x2100	1100x2100	1830x2410			
	8	550	800x2100	1100x1250	1800x1560	6	40A	1500 kg
	9	630	800x2100	1100x1400	1800x1710	0		1500 kg
1.5	11	750	800x2100	1300x1400	1930x1710			
	13	900	900x2100	1600x1350	2200x1660	9.5		3000 kg
	15	1000	900x2100	1600x1400	2200x1710	9.0		Judu kg

Machine Beam Reaction Value & Pit Reaction Value								Unit: kg	
Loading Capacity	Gov-axis Capacity (Wall- horizontal Weight)	Gov-axis Capacity (Wall-vertical Weight)	TM-axis Capacity (Wall-horizontal Weight)	TM-axis Capacity (Wall-vertical Weight)		CWT-axis Buffer Impulse Loading	Car-axis Impulse Loading At Emergent Stop	Guide Shoe Reaction	Guide Shoe Reaction
(kg)	HR1	HR2	HR3	HR4	R1	R2	R3	Fx	Fy
320		300 1250	1250	750	4216	3456	3286	88	90
450					4976	3932	3792		
550					5536	4272	4118		
630	650				6016	4576	4401		
750					6856	5152	5207		
900					8776	6740	6452		
1000			-	9256	7000	6722			

1100x2100

800x2100

1830x2410

Speed (m/s)	Passenger Capacity	Loading Capacity (kg)	Door Size (mm)	Car Inside Size (AxB)(mm)	Hoistway Inside Size (XxY)(mm)	Motor Capacity (KW)	MCCB Capacity	HOOK Application Load	
	8	550	800x2100	1200x1180	1850x1490	4	20	- 1500 kg	
1.0	9	630	800x2100	1200x1250	1850x1560	4	20		
1.0	10	680	800x2100	1200x1350	1850x1660	6.3	20	- 3000 ka	
	11	750	800x2100	1200x1450	1850x1760	6.3	20	- 3000 kg	
	8	550	800x2100	1200x1180	1850x1490	6.0	40A	_	
1.5 - -	9	630	800x2100	1200x1250	1850x1560	6.0	40A	 1500 kg	
	10	680	800x2100	1200x1350	1850x1660	9.5	40A	_	
	11	750	800x2100	1500x1200	1850x1760	9.5	40A	3000 kg	

* Optional Machine Beam Reaction Value & Pit Reaction Value								Unit: kg	
Capacity	Gov-axis Capacity (Wall- horizontal Weight)	Gov-axis Capacity (Wall-vertical Weight)	TM-axis Capacity (Wall-horizontal Weight)	TM-axis Capacity (Wall-vertical Weight)	Car-axis Buffer Impulse Loading	Impulse Leading	Car-axis Impulse Loading At Emergent Stop	Guide Shoe Reaction	Guide Shoe Reaction
(kg)	HR1	HR2	HR3	HR4	R1	R2	R3	Fx	Fy
550		50 300 1250	1050	750	5536	4272	4118	88	90
630	CEO				6016	4576	4401		
630 680	- 650 -		750 -	6376	4824	4918	175	225	
750				6776	5072	5151			

Overhead & Pit		
Speed (m/s)	Overhead* (mm)	Pit** (mm)
1.0	3800	1150 (1250)
1.5	3900	1500

15 (Deep car)

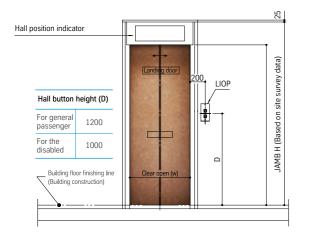
1000

- $^{\star}\,$  With the air-conditioner, the overhead will be 3900mm for 1.0m/s and 4100mm for 1.5m/s.
- \*\* At 1.0m/s, travel height above 15m with loading capacity range from 750kg to 1000kg, the pit depth will be 1250mm. Remark: Marble floor and air-conditioner cannot be installed at the same time due to load limit.

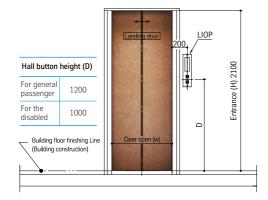
30

# **Entrance**

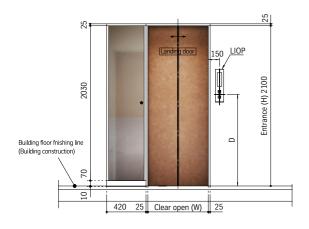
#### Main Entrance (with Transom)



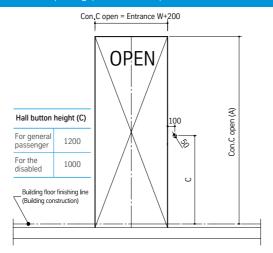
#### Other Entrance (without Transom)



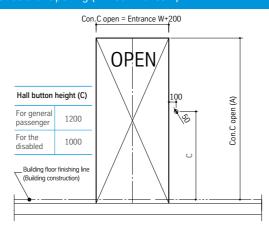
### Entrance (Top Floor) with Control Panel



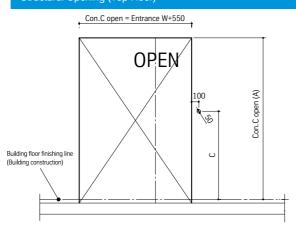
#### Structural Opening (with Transom)



#### Structural Opening (without Transom)



### Structural Opening (Top Floor)



		with Transom	without Transom	For the Disabled
Opening a	rea height (A)	2500mm	2200mm	-
Hall button time (C)	Flush mounted type	110	0mm	900mm
Hall button type (C)	Surface mounted type	120	0mm	1000mm

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# List of construction works excluded

#### MRL Elevator

Power supply to main circuit breaker in the hoistway per elevator. (refer to technical data of specification)
 \*power supply fluctuation should be kept within 5%.
 Input Power Cable (Power supply between Controller) by others.

- 2. A circuit breaker for each elevator per the local elevator code with feeder in the hoistway.
- 3. A separate power supply for lighting with 15 ampere circuit breaker for each elevator.
- 4. Wiring and trunking for the intercommunication system and svp panel (if any) to the building management room.
- 5. Power outlet and inlet in the hoistway and pit with light switches.
- Temperature in the hoistway to be kept between 0~c and 40~c.
   Humidity in the hoistway inside (overhead part) not exceeding 90%.
   Heat dissipation equipment for the hoistway inside (overhead part).
- 7. Hoisting beam or hook for each elevator maximum loading capacity.
- 8. Structural openings for each landing as shown on the layout plan.
- 9. Front entrance wall to be constructed for a sill to be set in place.
- 10. Hoistway wall to be constructed with enough strength for fixing rail brackets.11. Reinforced dry pit to sustains impact loads from car and counterweight.
- 11. Nemoreed dry pit to sustains impact loads from ear and counterweight.
- $12. \ \mbox{Landing}$  entrance wall to be finished after frames and sill are set in place.
- 13. Suitable hoistway wall reinforced to sustain reaction load.14. Pit ladder is provided by others.

#### \*Remark

The clear hoistway dimension indicated on the layout plan are minimum requirement for contract specification. The tolerance of full hoistway shall be kept within 30mm for full height of hoistway.