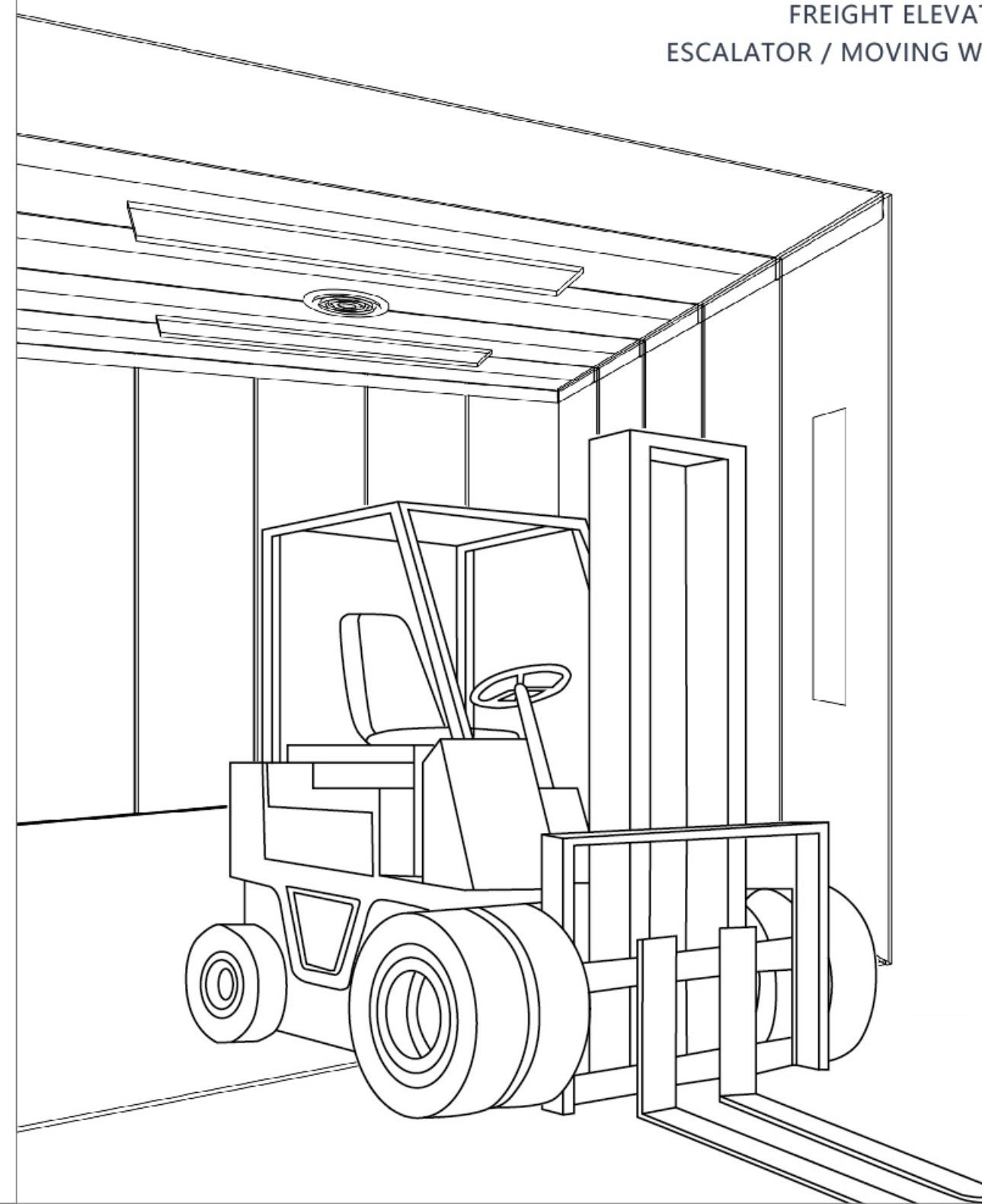




FREELY ENJOY WITH THE WORLD
INTELLECTUALLY CREATE A BRIGHT FUTURE

SAFE ELEVATOR

FREIGHT ELEVATOR SERIES
ESCALATOR / MOVING WALK SERIES



SAFE ELEVATOR (ZHEJIANG) CO., LTD.

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COMPANY PROFILES



Safe Elevator (Zhejiang) Co., Ltd. is a manufacturer of elevator, escalator and parts from China, which integrates design, manufacturing and sales. Engaged in global elevator sales for many years, combined with the global user experience able to produce different products adapted to the local market according to the needs of foreign markets in different regions. At present, it has provided the best building traffic solutions for more than 10 countries and regions in the world, and the production plant has more than 30 years of production experience about passenger elevator, sightseeing elevator, inorganic room elevator, medical elevator, cargo elevator, escalator, automatic sidewalk, villa elevator, etc.

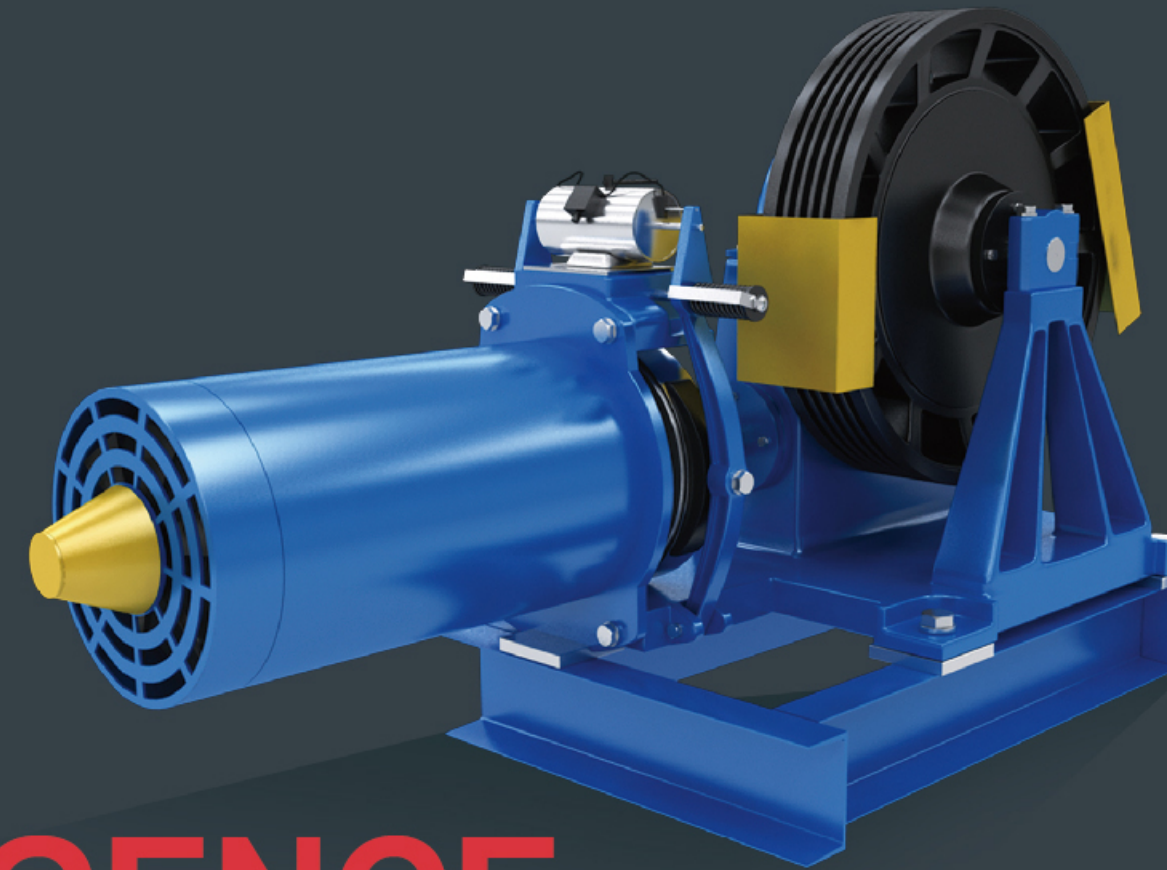
With the leading production equipment and conditions provides OEM services for the world's top elevator brands. The technical team will provide you with the best solution. The products have high safety, stability and reliability. At the same time, they have gathered the international well-known brand suppliers of elevator accessories in one elevator to meet the personalized production demand.

ADVANCED EQUIPMENT

It owns the world's leading high-tech automation equipment, international standard installation flow. It has the perfect escalator and moving walk manufacture factory houses. Every work process shows rigorous and advanced production craft & technology. It displays precise grasp to quality safety spirits from professional staff.



SAFE freight elevator applies micro-computer control system to fulfill non-contact control with simple & convenient operation, high reliability. It executes fully closed loop control technology to elevators. It effectively enhances the elevator operational properties. It reduces the power consumption.



PIONEER INTELLIGENCE

EXCEEDS SPEED OF THE TIMES

Leading Technology



Innovative & intellectual technology

SAFE freight elevator applies micro-computer control system to fulfill non-contact control with simple & convenient operation, high reliability. It executes fully closed loop control technology to elevators. It effectively enhances the elevator operational properties. It reduces the power consumption.



AC variable frequency door machine

It applies variable frequency door machine control system, AC variable frequency motor, variable frequency door machine mechanical system with advanced technology. It increases safe and sensitive elevator operation. It saves energy and saves loss. It suits the higher and higher requirements from modern transport.



Light curtain protection

It forms numerous light curtain protection barriers in front of the elevator. It sensitively reacts to any object that enters into its probing range. It efficiently protects safety of both passengers and goods. It has intensive infrared light curtains in the plane of car door. It can not be seen by human eyes. It brings about the more attractive elevator entry.



Smooth & durable operation

SAFE freight elevator applies advanced technology and firm materials. Elevator running is not afraid of any harsh environments. It ensures safe, smooth and quick up / down motion of freight elevator.



Large door-opening distance, high cost performance

It applies multi-folded hall / car door. It fulfills maximum door-opening width. It is convenient for entry / exit of large goods.



VVVF variable frequency technology saves a lot of energy

Variable frequency freight elevator applies VVVF voltage & speed regulation technology. It greatly reduces elevator running power consumption and power supply capacity. Compared with traditional AC double-speed drag elevator, it saves 30% to 50% of energy.



Safe & reliable structure, high strength

High intensity plate bending & shaping technology guarantee the firm and solid elevator car. In addition, the company specially designs anti-collision guard-rail to carry out multiple protection to elevator cars.



Highly accurate leveling

Leveling accuracy can be controlled within mm-level range.



We apply the fully computerized modular elevator special control system, effective and reliable drive mode, sensitive and flexible VVVF variable frequency door machine for **SAFE** serial freight elevator so that our elevator can have relaxed transport under various work conditions. High strength car structure, anti-collision strip, photocell door setting can satisfy all kinds of the freight transport. They are also applicable for different building structures. As a result, we can tackle more and more transport tasks at ease and create a completely new freight carrying concept as well.

FREIGHT ELEVATOR



Large width door-opening
satisfies free
entry / exit of large goods;



High intensity compression-resistant
section material satisfies transport of
large weight goods;



Highly intensive leveling effect
satisfies entry and exit of both
passengers and goods;



SAFE machine roomless freight elevator takes low carbon environment protection as design concept. It saves energy and reduces loss. It utilizes the well space to the greatest extent. It regards saving the building area and decreasing the building cost as ultimate goal. It gives a full play of green humane spirits of the products. Compared with geared elevator with same load level, it can save 40% of electric energy, 10% of building area.

MACHINE ROOMLESS FREIGHT ELEVATOR



Ordinary freight elevator



Machine roomless freight elevator

It saves 25% of total elevator equipment area.
It reduces 40% of space occupation.



SAFE automobile elevator develops and manufactures automobile elevator through introducing, absorbing, transforming and enhancing the well-developed international car elevator technology. Advanced technology removes bad factor of shaking car. It is caused by noise due to burdened traction system out of uneven force to elevator car. It optimizes the characteristics of the product series.

AUTOMOBILE ELEVATOR



Two car operation panels
can be set in the car cabin



Special circuit control
and display system



Safety guide device



The elevator cabin can
have two entrances

Freight elevator Car decoration



Standard

Ceiling: Paint steel
Car wall/Car door: Paint steel
Illumination: LED light
Door opening mode: Side opening
Floor: Checkered plate



Optional

Ceiling: Hairline stainless steel
Car wall/Car door: Hairline stainless steel
Illumination: LED light
Door opening mode: Center-opening & doublefolded type
Floor: Checkered plate

Human-machine Interface



BL-208

BL-209

BL-208 Standard

Panel material: Hairline stainless steel
Button: Round button
Display screen: Broken-code display screen

BL-209 Optional

Panel material: Hairline stainless steel
Button: Square button
Display screen: Broken-code display screen

Landing door series



BO-TM01
Center opening



BO-TM02
Side opening

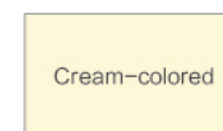


BO-TM03
Double-folded center opening type

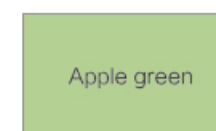


BO-TM04
3-Folded center opening type

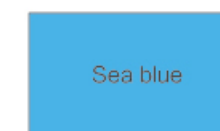
Color card series



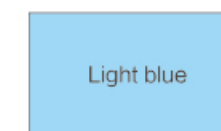
BO-Y01



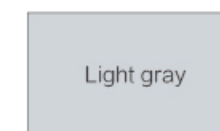
BO-Y02



BO-Y03



BO-Y04



BO-Y05

● The pictures are plotted by computer and are likely somewhat different from the actual products.

Freight elevator

Function

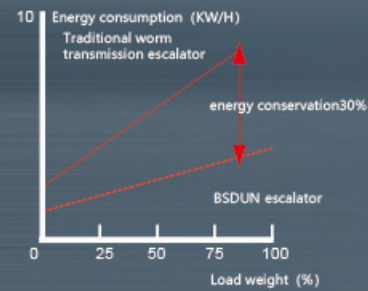
Control function		Safety function		Information function		Comfortable function	
------------------	--	-----------------	--	----------------------	--	----------------------	--

Well and floor distance self-tuning	S	Light curtain protection	S	Full collective control	S	Emergency car lighting	S
Power on re-leveling	S	Overload holding stop	S	Full-load bypass	S	Car ventilation light automatically shut off	S
Micro-touch button for car	S	Terminal forced slow-down protection	S	Main floor shut off	S	Repeated door closing	S
Start protection control	S	Up/down limit and terminal protection	S	Self diagnosis of breakdown	S	Reopen with hall call	S
Car arrival chime	O	Down over speed protection	S	Five-way communication	S	Express door closing	S
VVVF drive	S	Up over speed protection	S	Car alarm	S	Car stop and door open	S
VVVF drive for door operator	S	Safely stop	S	Floor and direction indicator in the car	S	Door opening time extending	O
The second car operation panel	O	Inching operation	S	Floor and direction indicator at hall	S		
		Inspection operation	S	Voice announcement	O		
		Power failure emergency leveling device	O	Traffic dispatch	O		
		Anti-nuisance	O				
		Fire emergency return	O				

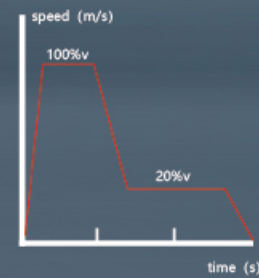
S- Standard
O- Optional(with extra cost)

Remark: Please refer to BSDUN technical documents and contact our BSDUN sales person for details.

SAFE escalator surpasses your desires! It is widely applicable for large passenger flow areas such as the shopping center, supermarket, subway, airport etc. It adds a bright and flowing scene for your building.



Schematic diagram of efficiency of helical gear reducer compared with worm gear reducer



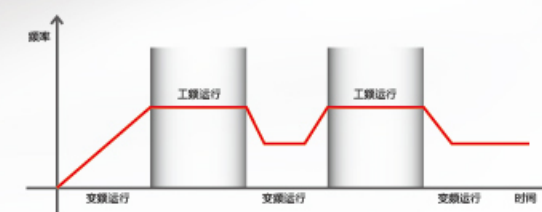
Operation diagram of frequency conversion specification

ESCALATOR

It gives first priority to use VVVF variable frequency technology, ergonomics research fruits and advanced manufacture technology. It brings about the more perfect SAFE escalator safety and comfortable travel. Meanwhile, users can save more and more energy. It is more convenient in repair.

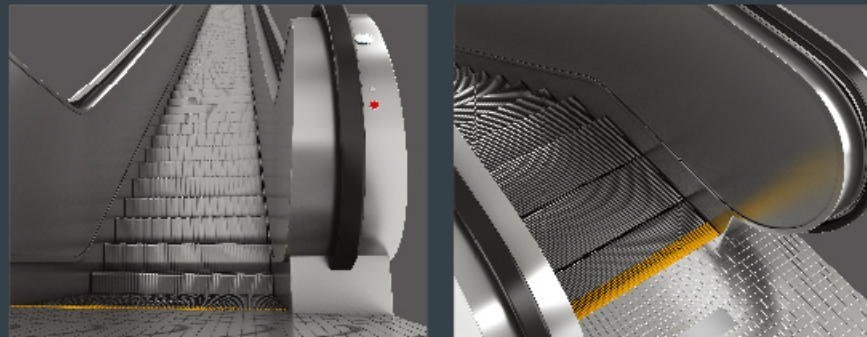
SAFE automatic walkway in the colorful modern city, large supermarkets, public buildings, airports, exhibition centers and transit stations and other public transport occasions, the automatic walkway because of its own characteristics, not only to meet the traffic problems, but also to meet long-distance walking and baggage trucks, Baby carts, shopping carts, disabled cars, etc. make people feel like walking on the ground when they go upstairs and downstairs, especially when shopping, which greatly facilitates people's travel and shopping.

MOVING WALK

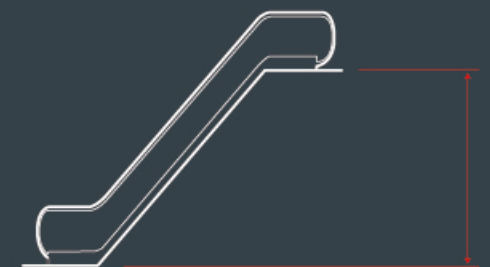
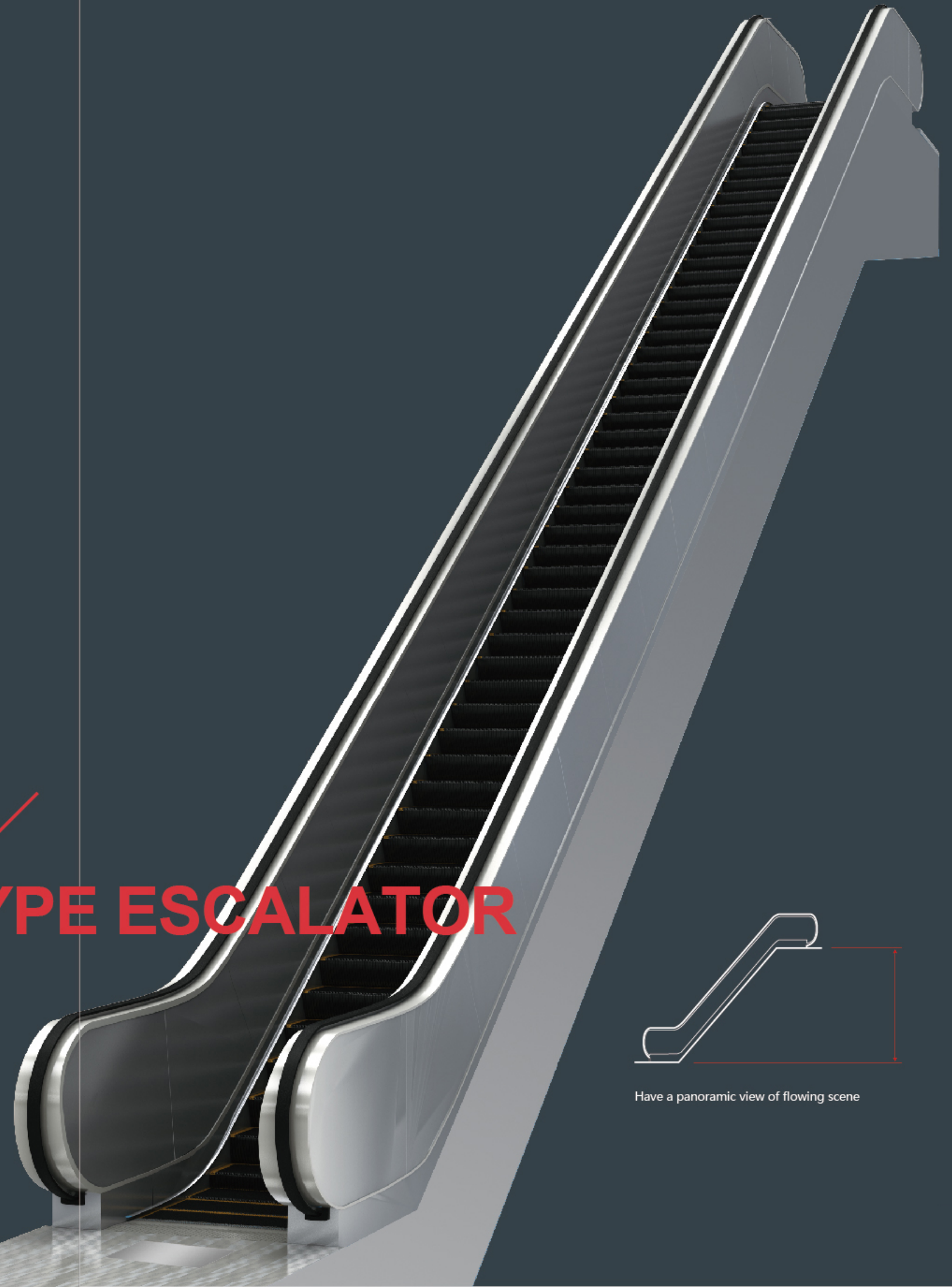


In various public traffic & transport occasions such as large-size supermarket; public building; airport; exhibition center; transport change-over station etc. in busy and colorful modern cities, SAFE moving walk satisfies the transport problems of large passenger flow. It also meets the requirements of long-distance walk, delivery of luggage cart; shopping cart; vehicle for disabled etc. because of its own characteristics. People feel as easily as walking on firm earth during up / down shopping motion. Therefore it is greatly convenient for people's outing and shopping.

SAFE public traffic type escalator is significant achievement along innovative steps of
SAFE elevator. It initiates upon new highlight in domestic and overseas outdoor public
traffic type escalator field. It extends the practical product range to a broader extent.



HIGH RISE PUBLIC TRAFFIC TYPE ESCALATOR



Have a panoramic view of flowing scene

Innovative Technology

Emergency Stop Button

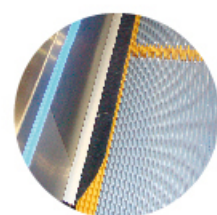
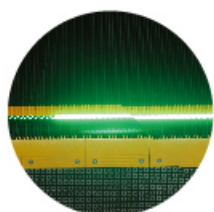
Once this button is pressed, down the passenger conveyor comes into an emergency stop.

Skirt panel brush

Brush is installed between step and skirting so that the passengers' shoes do not touch the skirt panel.

Demarcation lamp

Soft and green fluorescent light sends out from the engaging teeth in-between two adjacent steps (treads) in up / down end. It reminds the passengers to pay attention to the step entry / exit horizontal section. It thus enhances the travel safely.



Speed Detection By Drive Chain-wheel Device

When the escalator is reversible or over-speed, the sensor can detect the corresponding input signal. It transmits the signal to main control panel and the escalator host brakes safely.

Automatic Lubricator

It is controlled by micro-computer. It gives lubricating signal within the set period. It automatically connects with hydraulic pump for oiling and lubrication.

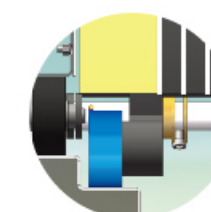


Antibiotic Handrail

The antibiotic handrail can prevent pathogen transmission effectively and the ride be made in safe and sanitary environment.

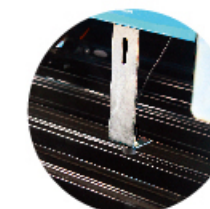
Side guide high accuracy step guide rail system

High rigidity big profile guide rail with nose used as transverse step positioning, guarantee the minimum gap between the skirt and step, decrease the possibility of objects clamp in between.



Step Loss Protection Device

The detector is in driving station and steering station respectively. It ensures that the gap out of step (tread) loss does not appear in the entry in up / down motion. Driving station and steering station sets protective detection functions. They shall be verified respectively under normal operation conditions. After the device acts, it can only be reset manually.



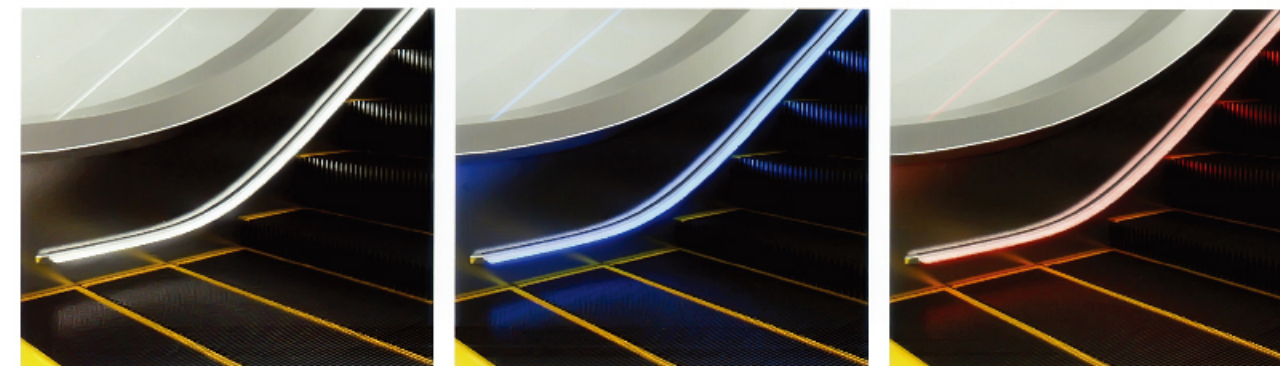
Standard Function

Func.name	Func.description
Static electricity protection	•Eliminate static electricity raised from running of steps.
Emergency stop button	•Push the emergency stop button to stop the escalator/moving walk against emergency raise.
Skirting protection	•Protection against risk of foreign bodies being jammed into clearance between steps and skirting.
Handrail entry safety protection	•Protection against risk of foreign bodies being jammed into handrail entry.
Main drive chains safety protection	•Protection against risk of drive chains being breakage or undue elongation.
Over-speed protection	•Protection against risk of speed being over 20% of rated speed.
Under-speed protection	•Protection against risk of speed less than 80% of rated speed.
Un-intentional reversal protection	•Protection against risk of unintentional reversal protection.
Lack of phase, error phase protection	•Protection against risk of phase failure.
Short circuit protection	•Protection against risk of short circuit.
Over-load protection	•Protection against risk of motor continually over-load.
Step sagging protection	•Protection against risk of steps being breakage and sagging.
Broken step chain protection	•Protection against risk of step chains being breakage or under elongation.
Comb teeth safety protection	•Protection against risk of foreign bodies being trapped at the point where the step enter the comb.
Handrail speed and broken handrail monitor	•It detects the handrail speed and monitors the broken handrail.
Skirting anti-clamp device	•It sets protection brush in the skirting on both sides of the step.
Step missing detection	•It detects the step missing in the stairway.
The brake opens the monitor switch	•It monitors whether the brake opens or not in during the escalator running.
Handwheel and handwheel protection cover open safety	•During the use of handwheel, when open the handwheel and the handwheel protection cover, the safety switch will cut the safety circuit against escalator running.
Floor-plate monitor switch	•When the pit cover plate opens, it cuts off safety circuit and stops the escalator safety switch.
Monitor of brake distance	•It monitors brake distance of the escalator and auto-walk.

Style-changing, configuration heart

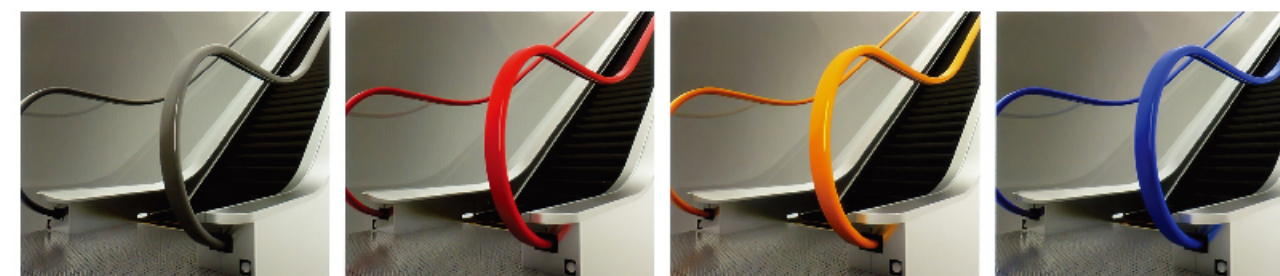
Skirting panel lighting

White / Blue / Red



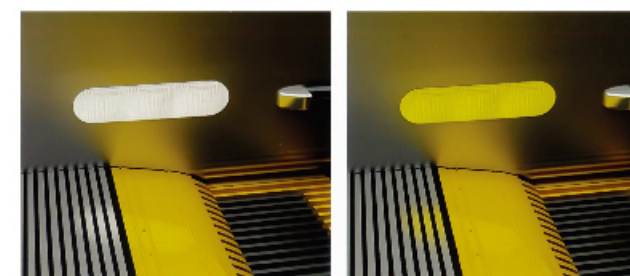
Handrail color

Gray / Red / Orange / Blue



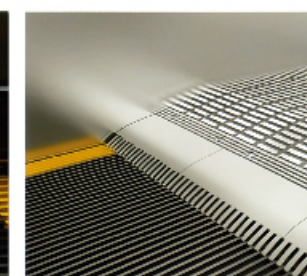
Comb teeth lighting

White LED / Yellow LED

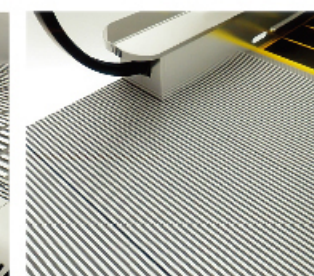


Comb teeth

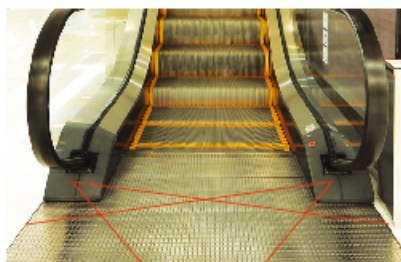
Aluminum



Leading edge board, floor plate



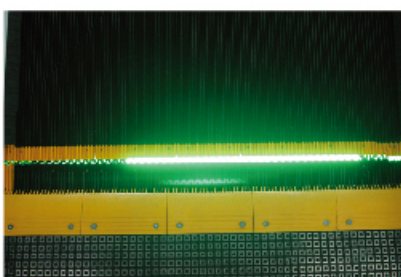
Optional Function



Intermittent operation
(automatic start / stop)



Running direction indication



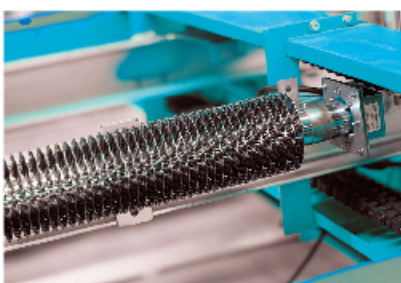
Demarcation lamp

Soft and green fluorescent light sends out from the engaging teeth in-between two adjacent steps (treads) in up / down end. It reminds the passengers to pay attention to the step entry / exit horizontal section. It thus enhances the travel safely.



Automatic Lubricaor

It is controlled by micro-computer. It gives lubricating signal within the set period. It automatically connects with hydraulic pump for oiling and lubrication.



Heating device

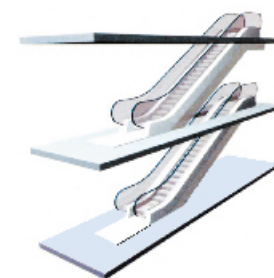
Each escalator usually installs three heating devices. One is beside the host in the upper machine room. It mainly heats the host. The second is installed in the mid escalator. And the third is in the lower part. It mainly heats the whole escalator.



Oil / water separator
(Apply to outdoor type)

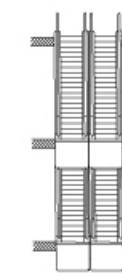
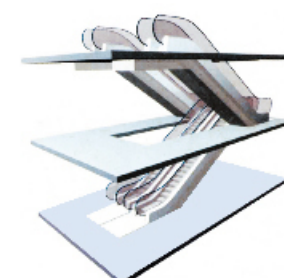
It separates the escalator oil and water. Rain exhausts through oil / water separator. We regularly clean oil mainly for the environmental protection purpose.

Perfect Layout



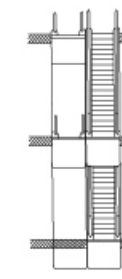
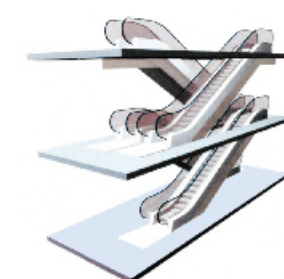
Intermittent layout style (one-way traffic)

Suitable for small-sized shopping malls with three floors.



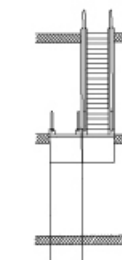
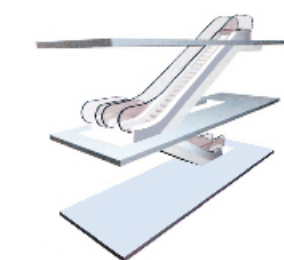
Parallel and continuous layout style
(two-way traffic)

The layout of this type may cause slight inconvenience to shoppers, but advantageous for shopping mall owners since they can market certain products and services to shoppers on their way to change escalators.



Cross and continuous layout
(two-way traffic)

Installed in buildings with multiple floors, the crisscross layout can travel in two directions to limit the traveling time between floors. This type is widely used in shopping malls and now being used more and more in government institutes and public places.

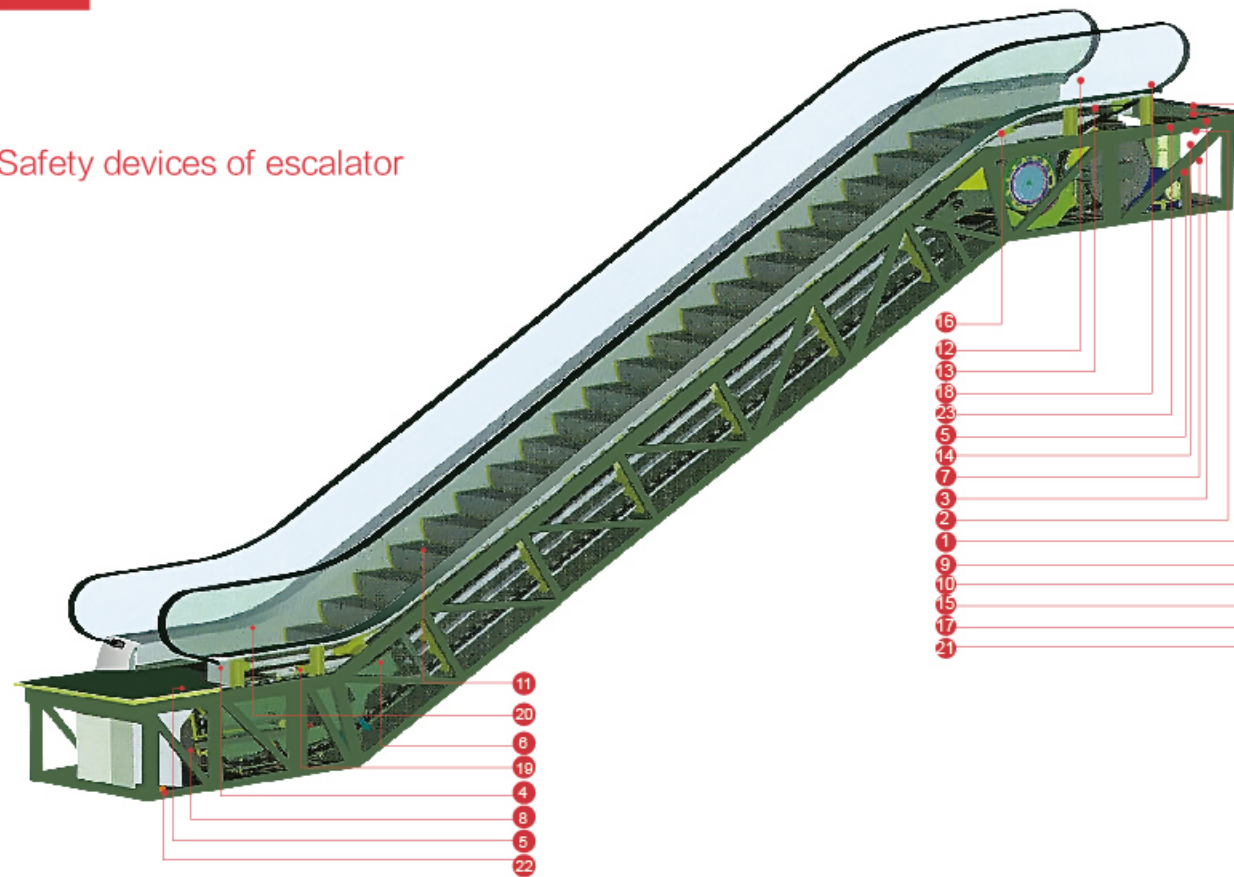


Continuous layout style (one-way traffic)

Continuous layout type escalator and moving walk can connect several floors, but they need more space than the inconsistent layout.

Safety devices

Safety devices of escalator



Standard Safety Device

1.Lack of phase, error phase protection:

If lack of phase or error phase has been checked out, the escalator (auto-walk) will automatically stop the operation.

2.Motor over-load protection:

When the current exceeds 15% of the current rating, the escalator will automatically stop the operation.

3.Electrical appliance loop protection:

It offers the automatic circuit disconnecting device to protect the circuit and mains components of the escalator (auto-walk).

4.Handrail inlet protection:

When some foreign substance has been clipped in the handrail inlet, the escalator (auto-walk) will automatically stop the operation.

5.Comb plate safety device:

When some foreign substance has been clipped in or between the combs, the escalator (auto-walk) will automatically stop the operation.

6.Step sagging protection device:

When there is abnormal step bending, the escalator (auto-walk) will stop the operation before the step entering into the comb plate.

7.Broken drive-chain safety device:

when the drive-chain has been over-stretched or it is broken, the escalator (auto-walk) will automatically stop the operation.

8.Broken step chain protection:

when the step (plate) chain has been over-stretched or it is broken, the escalator (auto-walk) will automatically stop the operation.

9.Over-speed protection:

When there is over-speed to the escalator (auto-walk), it will automatically stop the operation.

10.Direction reversal protection:

when it comes the unintentional reversal of the direction of travel, the escalator (auto-walk) will automatically stop the operation.

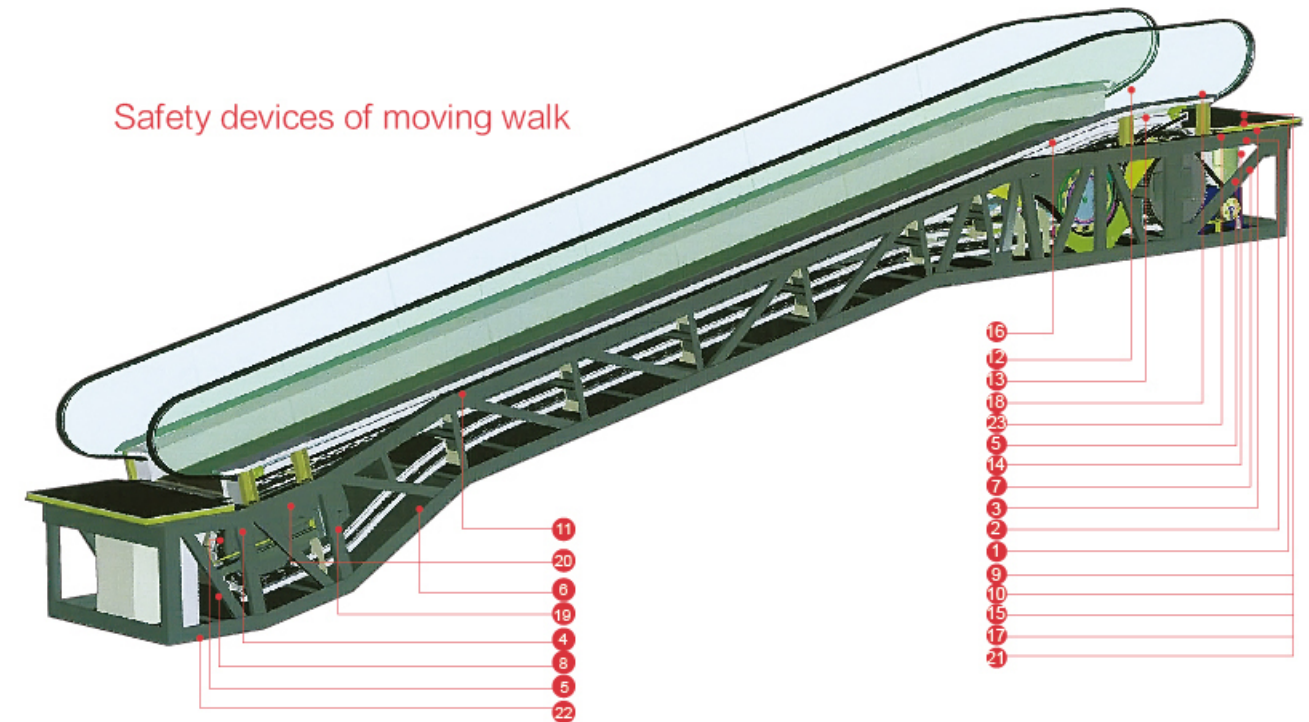
11.Security line:

The yellow synthetic resin security line is located in the front position and two sides of the escalator tread so that the passengers will not tread in-between the edge of the adjacent step and the lift group lengthened skirt panel. The security line on both sides of the step is higher than the tread surface. (The auto-walk offers the selective yellow spray-painted security line.)

12.Emergency stop button:

When the button has been pressed down, the escalator (auto-walk) will stop the operation.

Safety devices of moving walk



13.Skirt panel protection:

When some foreign substance has been clipped in between the skirt panel and the step, the escalator (auto-walk) will automatically stop the operation.

14.Brake protection:

When the electric force falls short of supply or it acts any of the safety device, the brake function goes into effect by the safety device through the spring resilience action. In this way, the escalator (auto-walk) stops the operation.

15.Safety inspection switch:

It is a safety device to prevent from the escalator starting during the inspection and maintenance.

Optional Safety Device

19.Handrail speed monitor:

When the handrail speed versus step is slower than certain percentage, the escalator (auto-walk) will stop the operation.

20.Skirt panel brush:

It is a selective safety device. The brush that has been installed between the skirt panel and the step will prevent the passengers from touching the skirt panel. (It is not merely restricted to the escalator.)

21.Fire-proof rolling door device:

when this device comes into action, it can stop the escalator (auto-walk) operation. It has been installed near the escalator (auto-walk).

16.Cascade lighting:

Illumination exists in the upper and lower ends of the escalator, in the lower part of the step in order to remind the passengers of the security matters.

17.Alarm bell starting device:

The alarm bell rings when it starts the escalator in order to remind the passengers of the security matters.

18.Control device for handrail breakage:

When the handrail is broken, the escalator will automatically stop the operation.

22.Lower machine room drain:

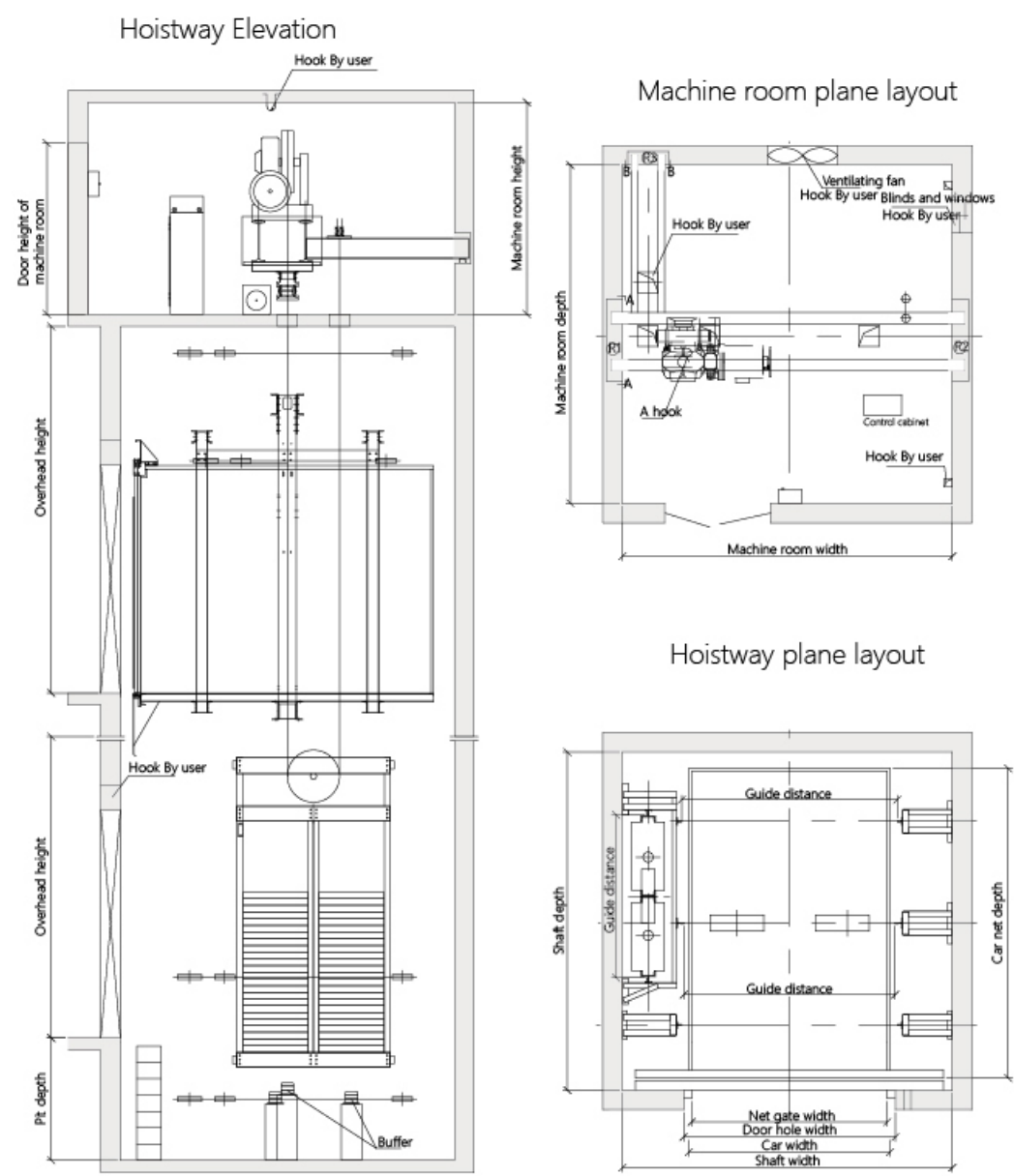
When it exceeds the standard to water intake in the lower machine room, it will operate the automatic drain system. (outdoor type)

23.Emergency brake:

It prevents from the escalator slide and ensures the human security in case of the drive chain breakage or the out-of-order of the brake. (It should be allocated with the emergency brake when $6m < H$.)

Freight elevator

Construction sketch

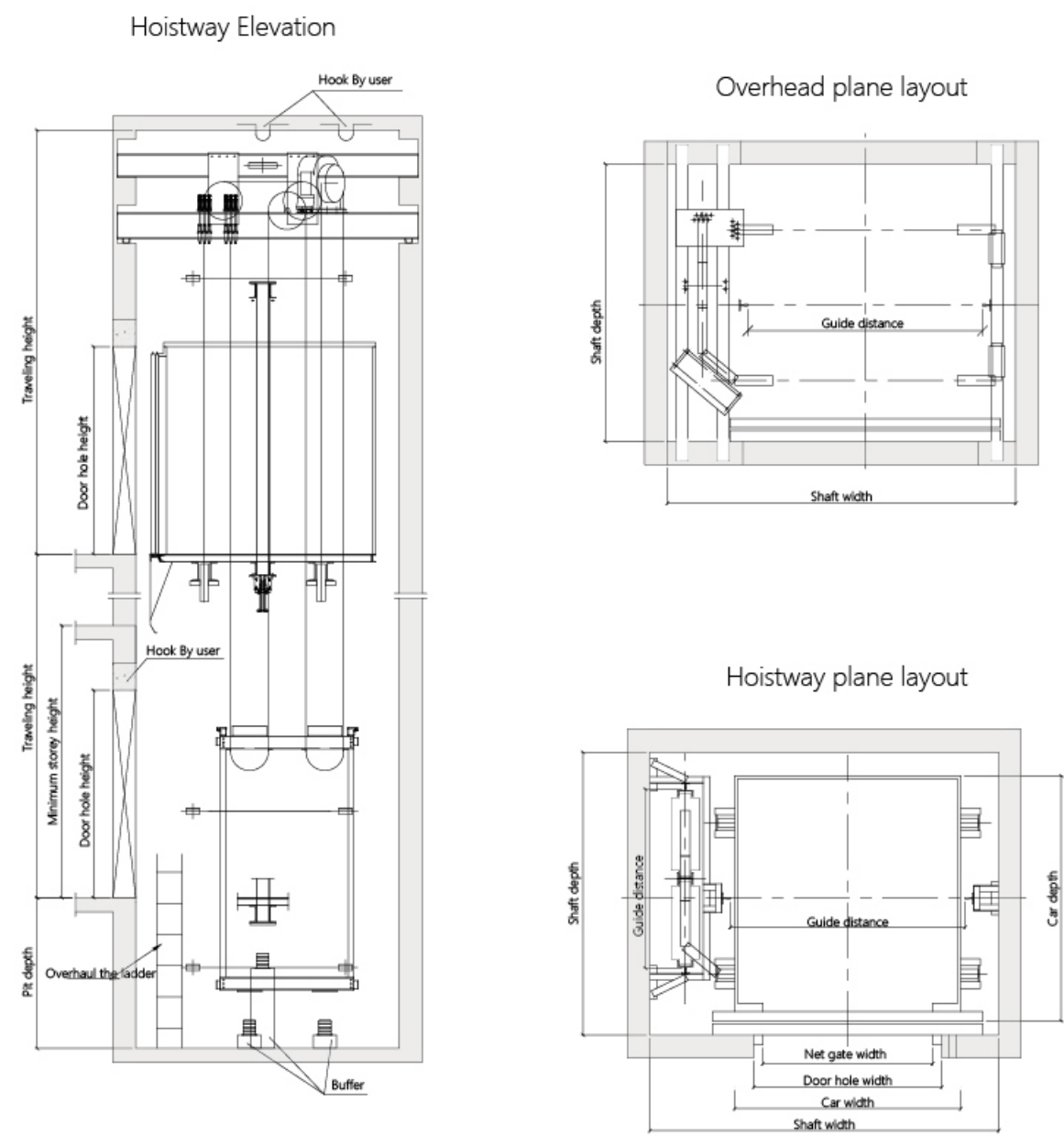


Freight elevator specifications

Load(kg)	Speed(m/s)	Door opening type	Car door entrance	Door opening size	Car outer size	Hoistway net size (mm)			Machine room size (mm)
				(WidthxDepth) mm		(WidthxDepth)	Pit depth	Overhead height	
1000	0.5~1.0	Double-folded side opening	single car door	1200*2100	1500*1800	2300*2100	1500	4500	2900*2700*2500
			opposite door						
2000	0.5~1.0	Double-folded side opening	single car door	1500*2100	1900*2400	2800*2700	1500	4500	2800*2700*2500
			opposite door		1900*2500	2800*2800			2800*2800*2500
		Center-opening & double-folded	single car door	1600*2100	1900*2400	2900*2700			2900*2800*2500
			opposite door		1900*2500	2800*2800			2800*2800*2500
3000	0.5	Center-opening & double-folded	single car door	1800*2100	2400*2500	3400*2900	1500	4500	3400*2900*2500
			opposite door		2400*2700	3400*3000			3400*3000*2500
5000	0.25~0.5	Center-opening & double-folded	single car door	2400*2400	3000*3200	4200*3700	1600	4800	4200*4500*2500
			opposite door		2900*3400	4200*3700			4200*4500*2500

Machine roomless freight elevator

Construction sketch

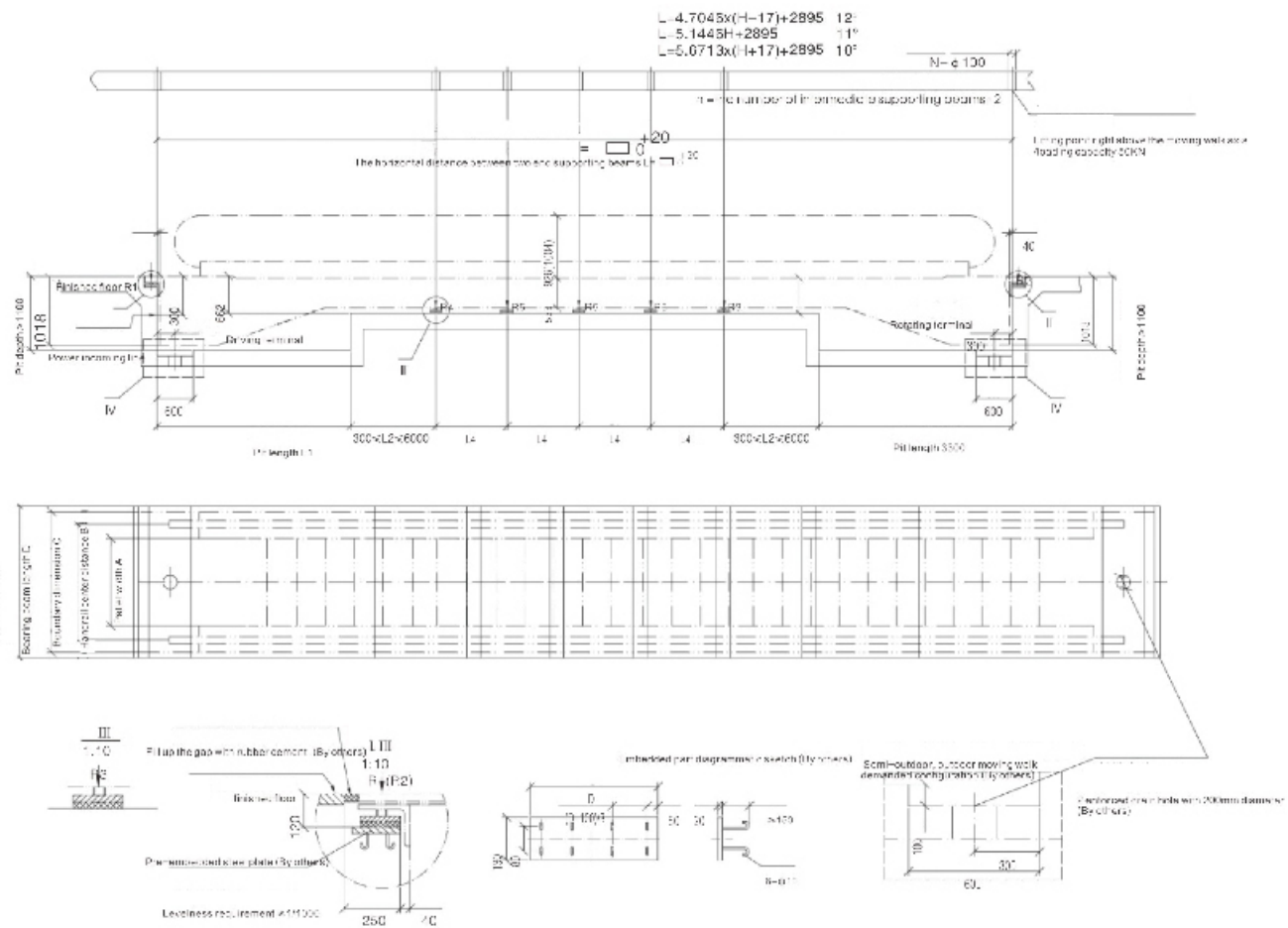


Machine roomless freight elevator specifications

Load(kg)	Speed(m/s)	Door opening type	Door opening size	Car outer size	Hoistway net size (mm)		
			(WidthxDepth) mm		(WidthxDepth)	Pit depth	Overhead height
1000	1.0	Double-folded side opening	1200*2100	1500*1800	2300*2200	1600	4500
2000	1.0	Double-folded side opening	1500*2100	1900*2400	2900*2700	1600	4500
3200	0.5	Center-opening & double-folded	1800*2100	2400*2800	3700*3200	1800	4800

Load(kg)	Speed(m/s)	Car inner size	Net door opening size (WidthxDepth)	Hoistway net size (mm)			Working mode
		(WidthxDepth) mm		(WidthxDepth)	Pit depth	Overhead height	
100	0.4	700*700*800	700*800	1250*1000	800	3800	window type
200	0.4	1000*800*1000	1000*1000	1600*1100	1000	3800	window type
250	0.4	1000*1000*1200	1000*1200	1600*1200	1200	3800	Ground level type/ window type
300							

0°moving walk construction sketch



Fillet width		1000		800	
In the middle of supporting sprockets glider distance L4		6000	10000	6000	10000
Load bearing capacity (kN)	R1	40	38	35	34
	R2	24.5	34	32	31
	R3	22.5	28.5	22	24.5
	R4	23.5	29.4	24	26.6
	R5	48	29.4	40	26.6
Motor power / rated current		Conveying length L		Conveying length L	
		10000~70000		10000~80000	
		9kW/18A		9kW/18A	
		70001~110000		80001~110000	
		11kW/25A		11kW/25A	

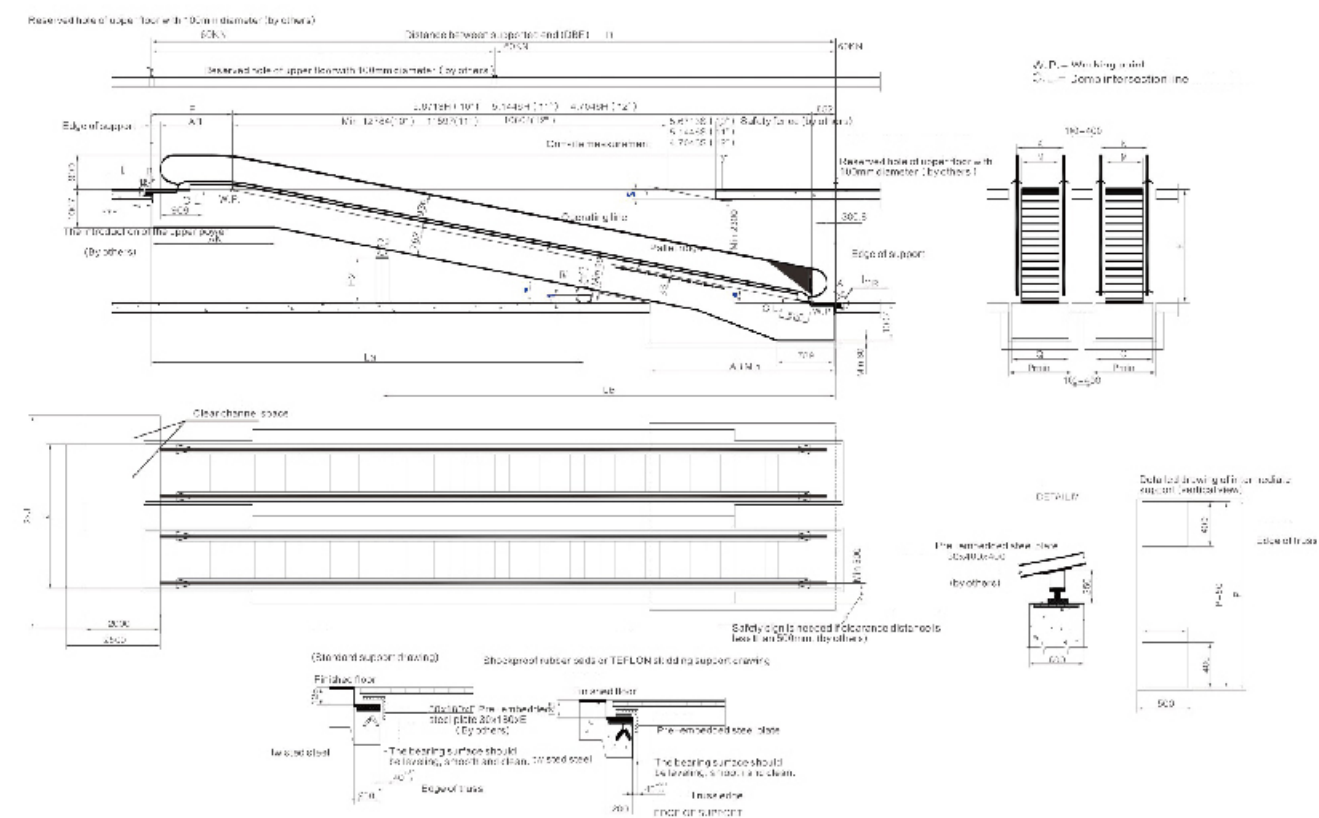
Notes

7. The heaters are needed when the environment temperature is below 0°C (outdoor or semi-outdoor). Please consult us about the gross power of the heaters.
8. Keep sufficient clear space in the entrance of the moving walk: the width shall be at least equal to the handrail center distance; the depth counted from handrail steering terminal shall be at least 2.5m. If the width of this area is too long, then the handrail center distance, the depth can be reduced to 2m.
9. If the pit exists, it should be water proof. And it should be handled by others.
4. When the distance between handrail center line and any obstacle is less than 500mm, fenders on the triangle space between the handrail and floor shall be set and fenders is supposed to be provided by others.
5. User shall provide power supply and grounding device and the upper supporting beam with resistance less than 4 ohm, 2m increasing, the allowance is needed. And please refer to Table left about this motor power.
6. Intensity of illumination in the exit and entrance of indoor moving walk should be at least 50LX, while 15LX in the exit and entrance of outdoor (semi-outdoor) moving walks (by others).
7. If the intermediate supporting beam is steel structure, please consult the elevator company.
8. Decoration of both sides and bottom of moving walk shall be done by user.

Technical description		
Angle α	0-6°	
Speed	0.5 m/s	
Pallet type	Sunhimalay (Indoor/en - outdoor/outdoor)	
Pallet width A	1000	800
Handrail center distance B	1238	1038
Boundary dimension C	1600	1400
Beating beam length D	≥ 1600	≥ 1400
Installation mode	Length L1	
Indoor/star delta	4000	4000
Indoor/ VVVF		
Semi-outdoor/star delta		
Semi-outdoor/ VVVF		
Outdoor/star delta	4600	4600
Outdoor/ VVVF		

Power supply: 380V AC 50Hz three-phase three-wire power is provided by users. When the escalator starts, the voltage drop will be ≤10%. And under normal operation, the voltage drop is 0% when the escalator is running. The maximum starting current should be less than 2.5 times the rated current.

12°moving walk construction sketch



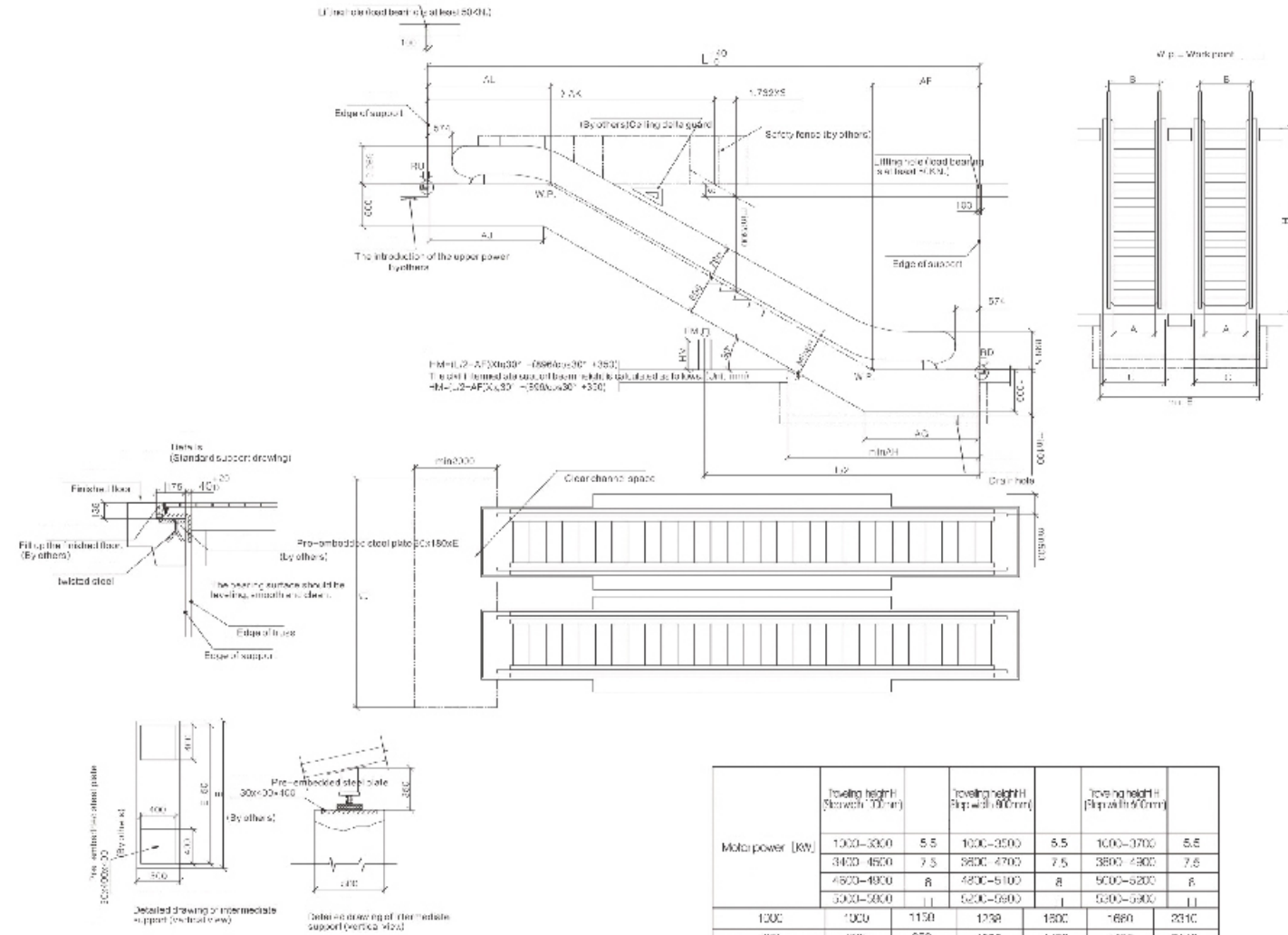
Notes

Motor capacity (kW) (HP)	Traveling height I		Traveling height II	
	1000~3000	5.5	1000~3200	5.5
	3000~4000	7.5	3500~4200	7.5
	4100~4700	8	4500~4700	8
	4800~6800	11	4500~7000	11
	6900~9000	15	7100~9000	15
Center supporting height II	When the traveling height II is 1000~1500, use center supporting height. And the supporting height is 1100~1500.			
Center supporting height I (to support height)	When the traveling height I is 5000~10000, use center supporting height. If center supporting height is 5000~5800, the second center is 5800~5800.			
Assembling method	100V AC 50/60Hz three phase flow rate power is provided. When it is not available, the voltage interval is 100V, and under normal circumstances, voltage drop across the assembly is limited. The maximum allowable current should be less than 3 times the rated current.			

Technical description		
Angle		12°
Speed		0.5m/s
Shaft width A	1000	800
Horizontal displacement B	1150	950
Horizontal distance from C	1230	1030
Shaft width in adjustment D	1000	1400
Unsprung load bearing point E	1600	1400
Extension from shaft to F	2310	2110
Power kW G	1600	1400
Load bearing capacity 10000	0.009xL ₁ -22	0.0075xL ₁ -19
Load bearing capacity 15000	0.0095xL ₁ -10	0.00795xL ₁ -8
Load bearing capacity 20000	0.0117xL ₁ +12.1	0.01014xL ₁ +12.1
Load bearing capacity 25000	0.0117xL ₁ +13.1	0.0104xL ₁ +13.1

1. When the moving walk is installed on the second floor or above, the pit will be canceled and civil substructure and superstructure shall be symmetrical.
2. Keep sufficient clear space in the entrance of the escalator, whose width shall be not less than 1300mm, and the depth from handrail ball steering terminal to the front obstacle must be not less than 2500mm.
3. The distance between handrail center line and any obstacle shall be not less than 500mm.
4. Earthing device with the resistance less than 4 ohm should be provided by the users.
5. When the traveling height H is <2600 , support R3, R4 is cancelled.
6. When the traveling height H is $2600 < H \leq 5830$, only support R5 is needed, and $L1=L2=L3$.
7. When the traveling height H is $5830 < H \leq 7800$, support R3 and R4 are needed, and $L1=L2=L3=L3$.
8. The drawing is civil size of standard 12" moving walk, if unable to perform as per standard drawing, please consult our escalator techno dept.
9. All dimensions in mm, and it subjects to change without notice.

30°escalator construction sketch

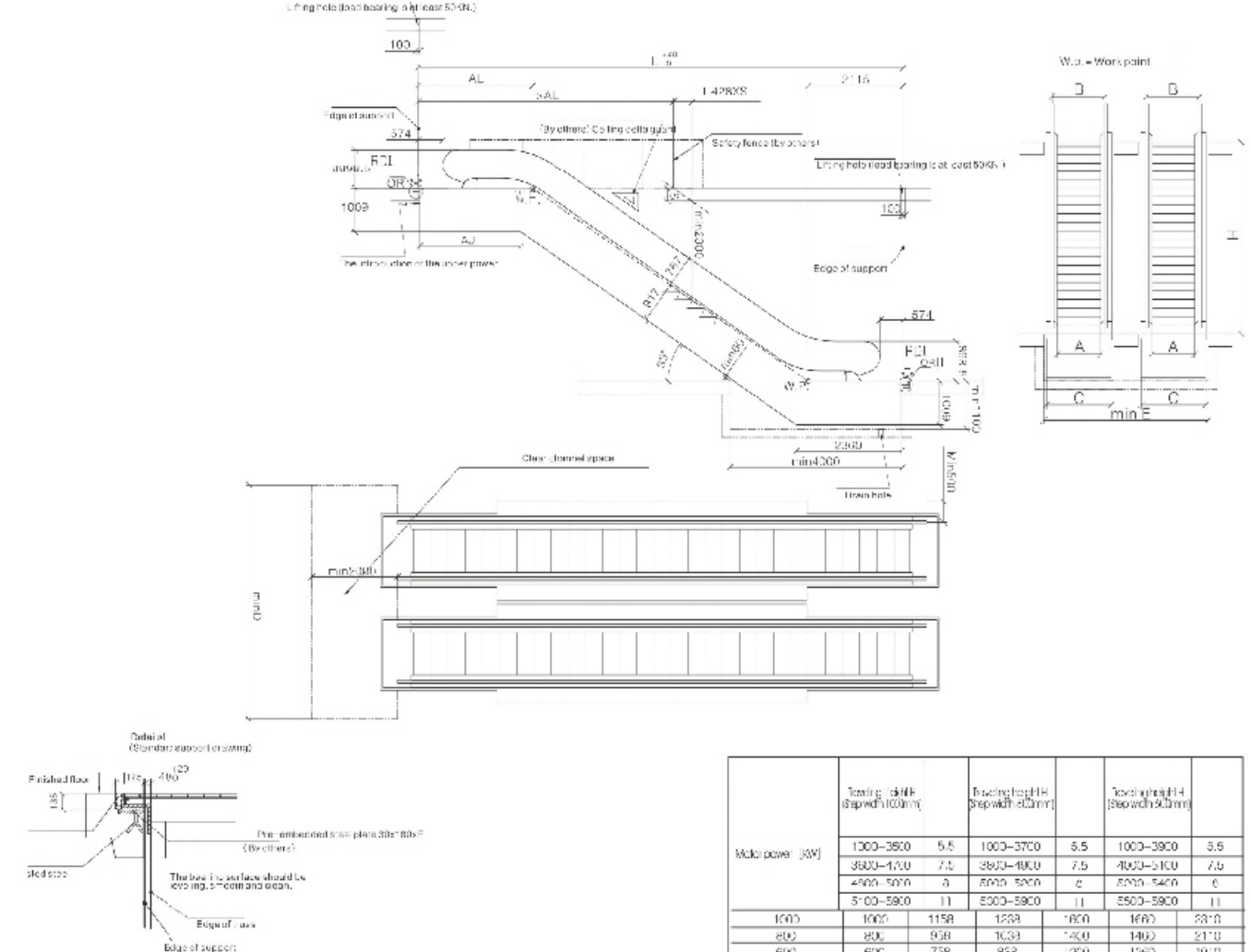


Note

- When the escalator is installed on the first floor or above, the pit will be canceled and civil substructure and superstructure shall be symmetrical.
- Keep sufficient clear space in the entrance of the escalator, whose width shall be not less than 1238mm, and the depth from handrail belt steering terminal to the front obstacle must be not less than 1500mm.
- The distance between handrail center line and any obstacle shall be not less than 500mm.
- The table of motor power is below.
- Earthing device with the resistance less than 4 ohm should be provided by the users.
- Power supply of escalator's main switch provided by users must be three-phase five-wire.
- All dimensions in mm, and it subjects to change without notice.

Motor power (kW)	Travel height H (Step width 100mm)		Travel height H (Step width 120mm)		Travel height H (Step width 150mm)	
	1000-3000	5.5	1000-3000	5.5	1000-3000	5.5
	3400-4500	7.5	3800-4700	7.5	3800-4700	7.5
	4500-5000	8	4500-5100	8	5000-5200	8
	5000-5500	11	5200-5600	11	5300-5800	11
1000	1000	1150	1238	1300	1460	1610
800	800	950	1038	1100	1260	1410
600	600	750	838	900	1060	1210
Step width	A	B	C	D	E	F
Model	Travel height H (Step width 100mm)			Travel height H (Step width 120mm)		
	1000	800	600	1000	800	600
FML(600)-30 (4500 persons/h)	3000	57	40	27	2750	10300
	3500	60	46	44	2760	11390
	4000	64	52	47	2810	12380
	4500	68	58	53	2830	13370
	5000	71	63	59	2840	14360
Speed : 0.5m/s	5500	75	62	65	2860	15350
	6000	79	68	69	2870	16340
	3000	53	52	47	2750	10300
	3500	63	56	50	2760	11390
	4000	67	60	54	2810	12390
FML(800)-30 (6750 persons/h)	4500	71	64	57	2830	13370
	5000	74	68	60	2840	14360
	5500	77	74	66	2860	15350
	6000	80	78	69	2870	16340
	3000	63	55	53	2750	10300
Speed : 0.5m/s	3500	67	64	57	2760	11390
	4000	71	68	61	2810	12380
	4500	75	73	65	2830	13370
	5000	80	75	7	2840	14360
	5500	87	84	75	2860	15350
FML(1000)-30 (9000 persons/h)	6000	92	80	73	2870	16340
	3000	63	55	53	2750	10300
	3500	67	64	57	2760	11390
	4000	71	68	61	2810	12380
	4500	75	73	65	2830	13370
Speed : 0.5m/s	5000	80	75	7	2840	14360
	5500	87	84	75	2860	15350
	6000	92	80	73	2870	16340

35°escalator construction sketch

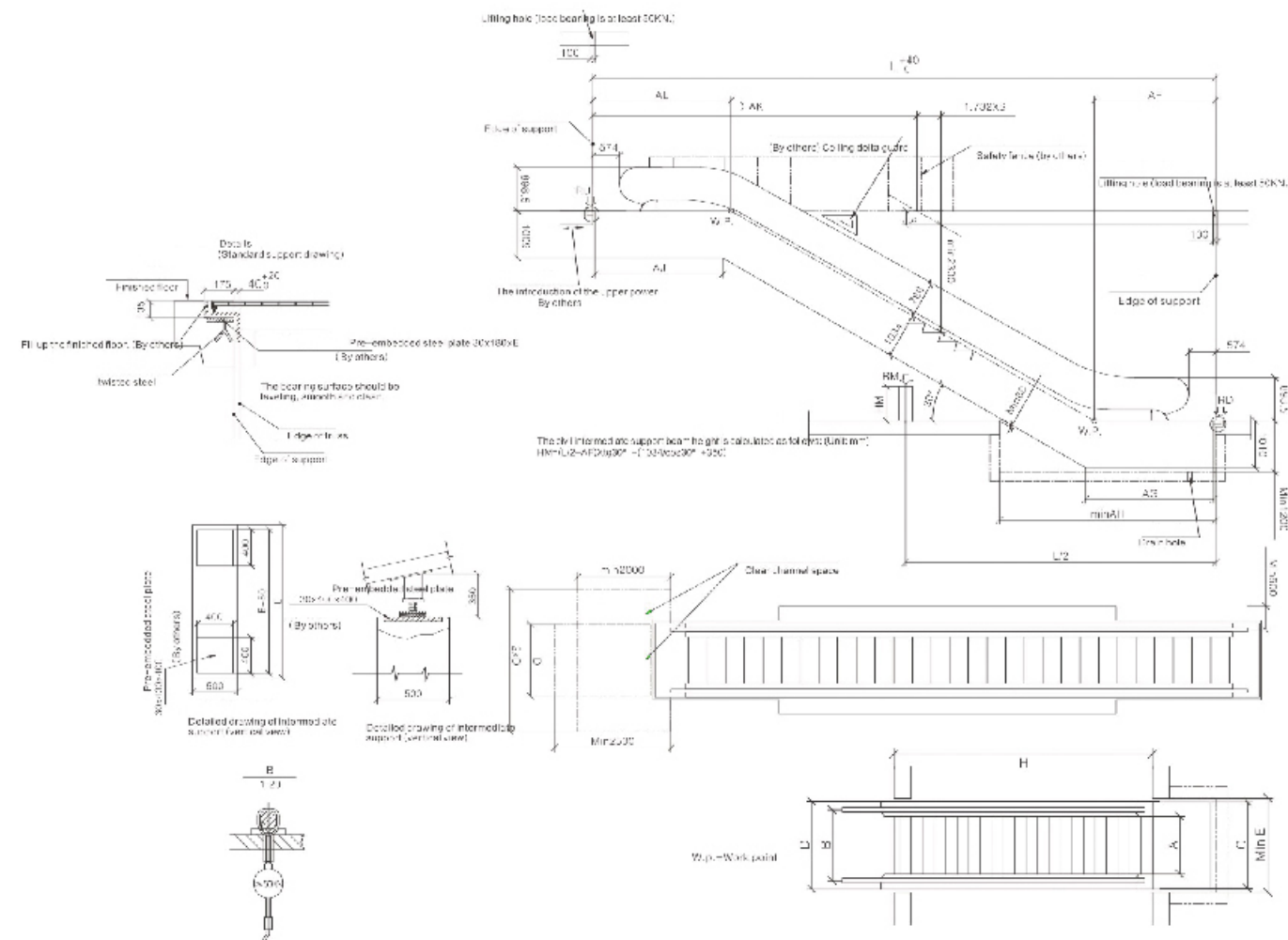


Note

- When the escalator is installed on the second floor or above, the pit will be canceled and civil substructure and superstructure shall be symmetrical.
- Keep sufficient clear space in the entrance of the escalator, whose width shall be not less than 1238mm, and the depth from handrail belt steering terminal to the front obstacle must be not less than 1500mm.
- The distance between handrail center line and any obstacle shall be not less than 500mm.
- The table of motor power is below.
- Earthing device with the resistance less than 4 ohm should be provided by the users.
- Power supply of escalator's main switch provided by users must be three-phase five-wire.
- All dimensions in mm, and it subjects to change without notice.

Motor power (kW)	Travel height H (Step width 100mm)			Travel height H (Step width 120mm)			Travel height H (Step width 150mm)		
	1000-3000	5.5	1000-3700	5.5	1000-3900	5.5	1000-5100	5.5	
	3800-4700	7.5	3800-4900	7.5	4000-5100	7.5			
	4900-5000	8	5000-5200	8	5000-5400	8			
	5000-5900	11	5300-5900	11	5500-5900	11			
1000	1000	1150	1250	1300	1400	1600	1800	2000	
800	800	950	1030	1050	1150	1350	1550	1750	
600	600	750	850	900	1000	1200	1400	1600	
Step width	A	B	C	D	E	F	G	H	
Model	Travel height (mm)	Electric Capacity			Transport size				
		Person	kg	kg	mm				
FML35/600 (4500persons/h)	3000	54	43	39	2850	10190			
	3500	57	46	41	2860	11090			
	4000	60	49	44	2870	11990			
	4500	64	52	46	2880	12790			
	5000	67	54	49	2890	13690			
Speed : 0.5m/s	5500	73	57	51	2900	14470			
	6000	73	60	54	3000	15300			
	3000	55	49	44	2850	10190			
	3500	60	52	47	2860	11090			
	4000	63	56	50	2870	11990			
FML30/800 (6750persons/h)	4500	65	59	53	2880	12790			
	5000	70	62	56	2890	13690			
	5500	73	65	59	2890	14470			
	6000	76	69	61	3000	15300			
	3000	60	56	50	2850	10190			
FML35/1000 (9000persons/h)	3500	64	60	53	2860	11090			
	4000	67	64	57	2870	11990			
	4500	71	67	60	2880	12790			
	5000	74	71	64	2890	13690			
	5500	82	77	69	2900	14470			
Speed : 0.5m/s	6000	85	81	72	3000	15300			

Hightravel elevator height escaliator Construction sketch



Web cover type	Footway height (step width 1000)		Footway height (step width 500)		Footway height (step width 600)	
	6000-6600		6000-6800		6000-7000	
	6700-7600		6900-7800		7100-7600	
1000	1000	1158	1238	1600	1660	2310
800	800	958	1038	1400	1460	2110
Step width	A	B	C	D	E	F

Note

1. When the oscillator's lifting height is in the range of 6000mm to 7800mm (6000mm < H < 7800mm), center support whose height H1 = H/2-1330 should be set on the center of the truss supporting beam.
2. Load-bearing of upper girder: $R1 = H \times 0.007 + 48$.
3. Load-bearing of bottom girder: $R2 = H \times 0.007 + 50$.
4. Load bearing of central support: $R3 = 1 \times 0.0216 + 90$. 380V AC 50Hz three phase five-wire power is provided by users. When the oscillator starts, the voltage drop will be $\leq 10\%$. And under normal circuit start-up, voltage drop is 5% when the oscillator is running. The maximum starting current should be less than 3.5 times the rated current.

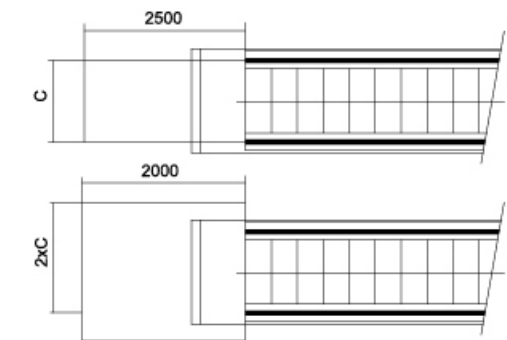
Note

1. When the escalator is installed on the second floor or above, the pit will be canceled and civil subsurface and superstructure shall be symmetrical.
2. Keep sufficient clear space in the entrance of the escalator, whose width shall be not less than 1236mm, and the depth from handrail belt steering terminal to the front obstacle must be not less than 2600mm.
3. The distance between handrail center line and any obstacle shall be not less than 500mm.
4. The table of motor power is below.
5. Earthing device with the resistance less than 4 ohm should be provided by the users.
6. Power supply of escalator's main switch provided by users must be three-phase five-wire.
7. All dimensions in mm, all subjects is changed without notice.

Installation Notice

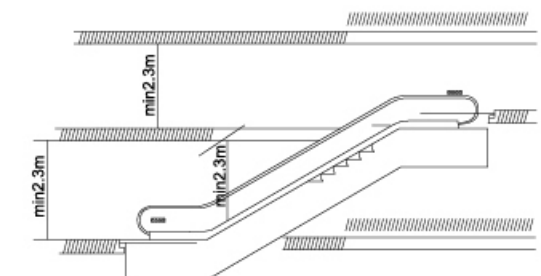
Besides complying with the drawing of the contract, attention should also be drawn to the following

- To ensure the safety of the escalator and moving walk, free space should also be large enough in the landing area. (See the minimum size reight)
- C=handrail belt width



Vertical safety distance

- There should be at least 2.3m upside safety distance staring upward from the step board.
- Notice: if the vertical rise of one escalator, which is installed above another one, is less than 3.3m, the upside safety distance can not reach 2.3m.



Escalators and moving walk horizontal safety distance

- The horizontal distance between the handrail edge and the wall or other objects should be more than 80mm.
- The vertical distance above the step board should be more than 2.3m.
- The vertical distance above the handrail space should be more than 2.1m.
- In case of floor spaces or the cross layout of escalators and moving walk, the safety distance between the handrail center and the object should be more than 0.5m.
- If the above-mentioned requirements cannot be met, a special protection device and a bumper rail should be used.
- For further information, please contact BSDUN elevator.

