

SPACE IS LIMITED, UNLIMITED SERVICE

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ESCALATOR
MOVING
WALK ESCALATOR
MOVING WALK

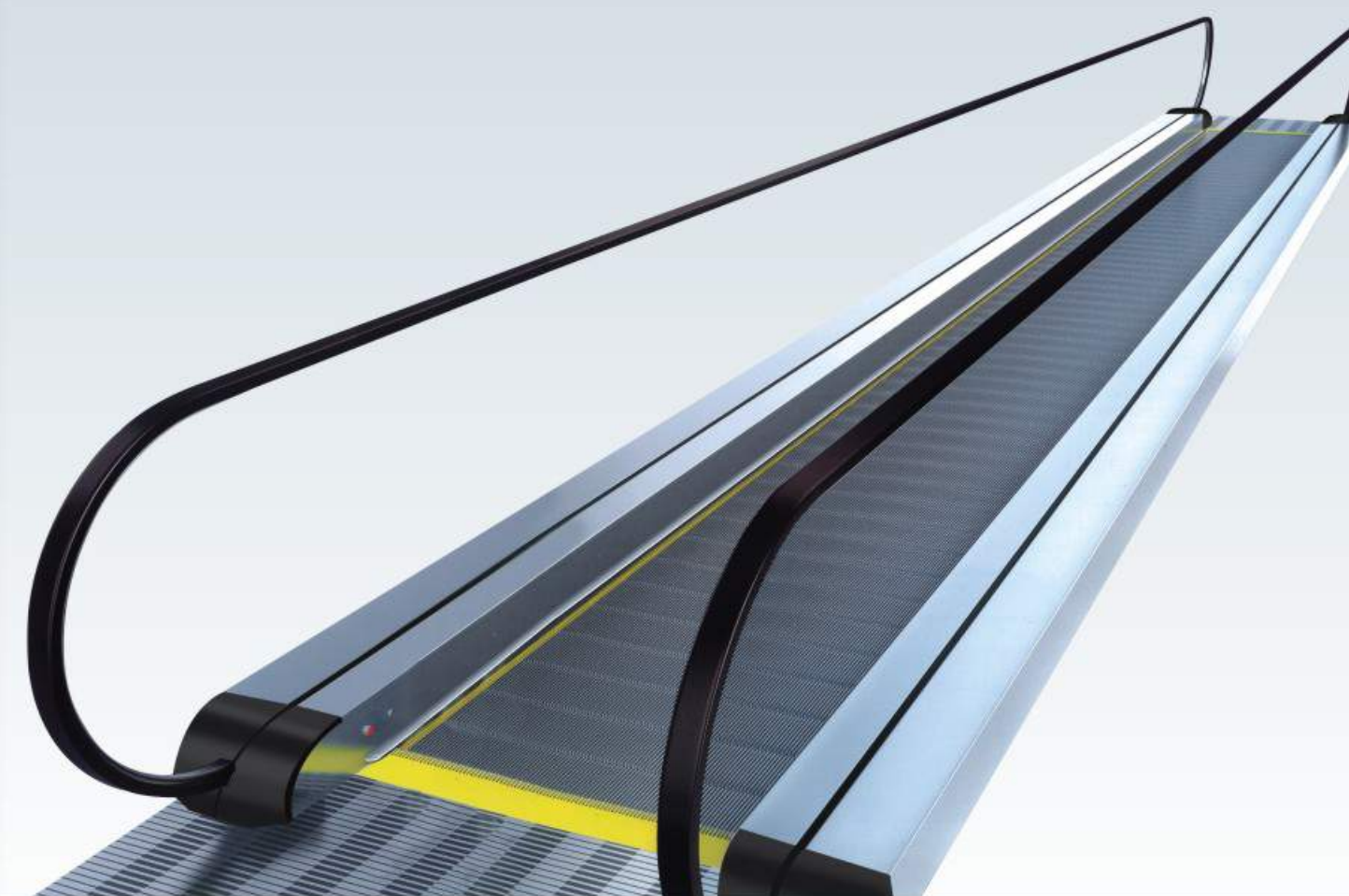
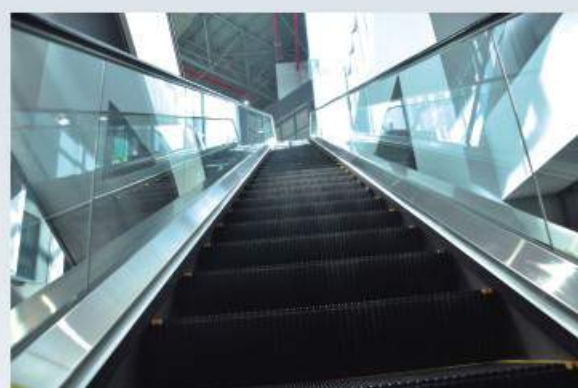
TEKNIC ELEVATORS PPG PVT. LTD

An ISO 9001:2015 QUALITY CERTIFIED

ESCALATOR

In accordance with the existing international standards and Chinese standards, new materials and advanced technology from domestic and overseas are fully applied to design and manufacture ENENG escalators. The escalator has the features, such as smooth running, low noise, fine durability, easy maintenance etc.

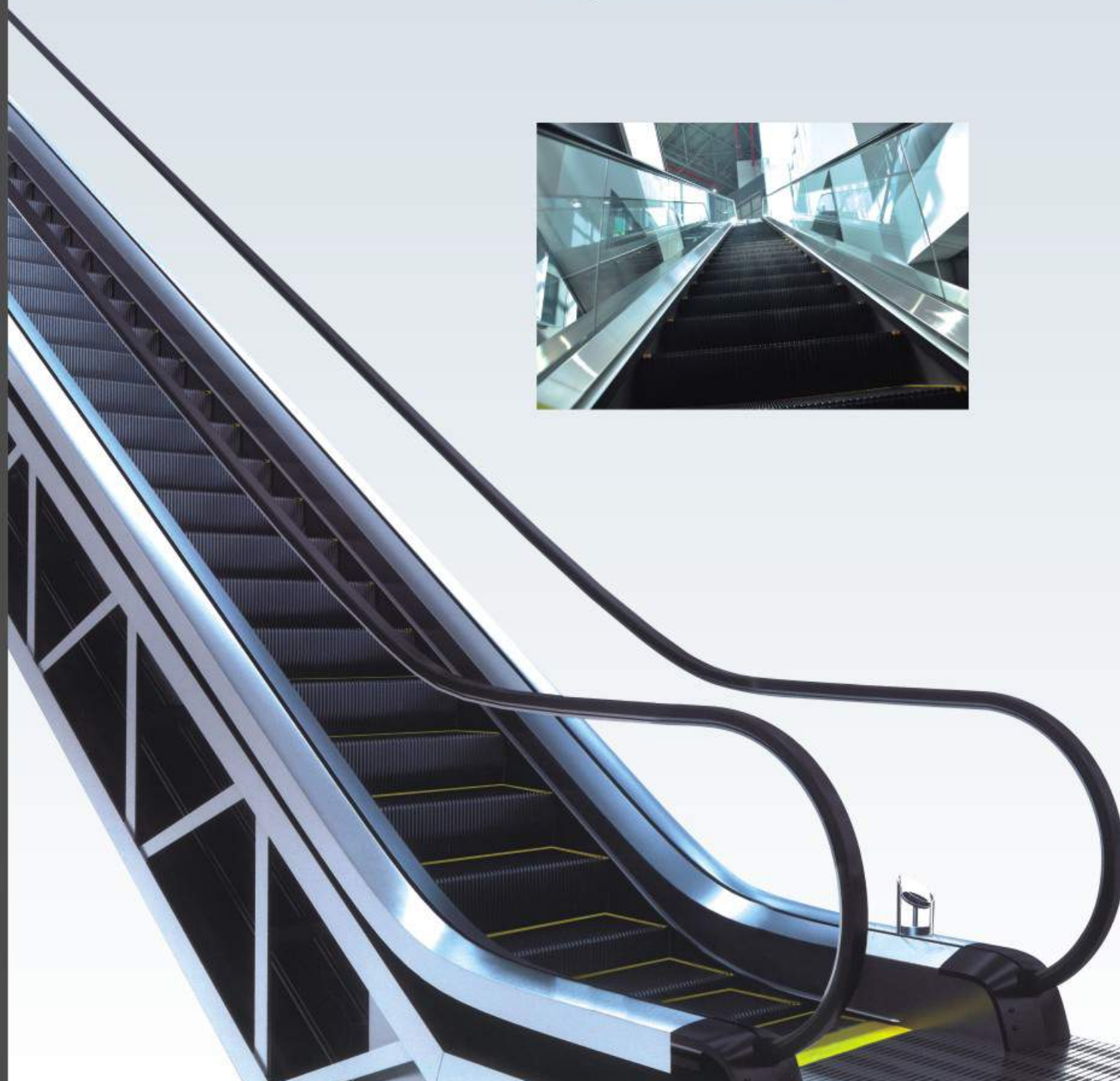
With the compact structure, fine step rail and belt way, beautiful appearance and contemporary design, ENENG escalators are widely used in shopping malls, supermarkets, subways, airports and other high traffic sites, becoming bright flowing scenes of the constructions.



MOVING WALK

ENENG adopts latest industrial technology of moving walks to ensure the safety of the products and in accordance with the latest national and international standards. We always place safety in the first place. The moving walks will be passed rigorous field test before transportation.

ENENG moving walks will deliver passengers, even with fully-loaded handcart, to each corner of the building smoothly and safely, bringing them a simple and comfortable shopping experience. Reliable and durable solutions of delivering provided by ENENG are indispensable for any high-quality shopping experiences.



STANDARD FUNCTIONS

Environmental and efficient design

- Variable frequency running saves the energy, easy to operate and improve efficiency;
- Automatic start/stop;
- Free-lubrication chain is environmentally friendly, safe and fireproof.
- High-quality components ensure the performance of escalator.
- Good maintenance and service.



◎ Handrail inlet

The design of the streamline handrail inlet is chic. It appears to be more beautiful in the outer appearance.



◎ Automatic oiling

PLC controlled automatic lubrication system can automatically lubricate to the drive chain during the escalator running. It reduces the workload of daily maintenance, and extends the service life of the driving mechanism.



◎ Precise step rail lateral guide rail system

Large-section guide rail adopted in the guide rail system fixes the precise position to ensure the minimum clearance between the step and skirt and reduce the risk of the foreign body being jammed into the clearance.

Multi-level security configuration keeps passengers safe



◎ Step chain with roller inbuilt

The roller step chain can reduce the noise effectively during the driving running, and make the escalator run more smoothly and quietly.



◎ Fault display

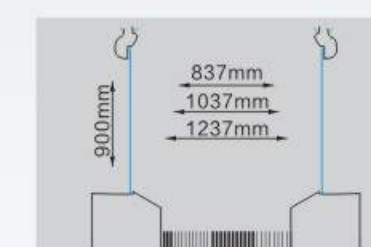
When a fault occurs, the fault code will be displayed on the screen to diagnose the position effectively and accurately within the shortest time and greatly improving maintenance efficiency.



Handrail color
Black (standard)



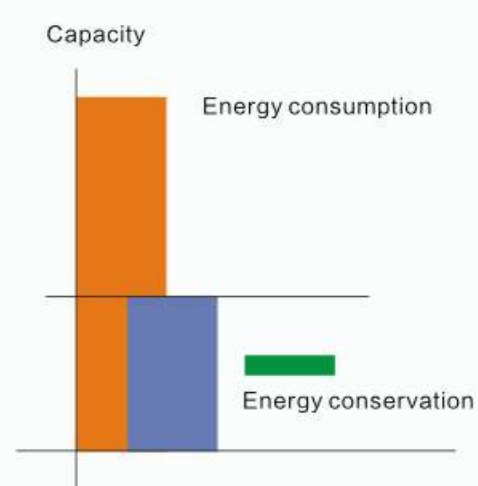
The baseboard color
Colorless and transparent (standard)



Handrail spacing
(1237mm is standard)



OPTIONAL FUNCTIONS



Energy saving operation modes

Variable frequency control or automatic start is energy-saving.

High standard

- Eye-catching yellow plastic comb makes your ride more comfortable and more secure;
- Skirt panel with 2mm thickness decreases the deformation and rub against the material to ensure the low friction between skirting and step.



◎ Riding illumination

Green light from the clearance between the adjacent two steps (pallets) reminds passengers to pay attention to the horizontal section at the entrance and exit of the escalator (moving walk), and ensure the passengers' safety.



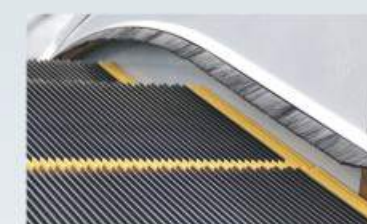
◎ Oil/water separator (for outdoor type)

It separates the oil and water. Rainwater is drained off from the oil/water separator. And it regularly cleans greasy, which is environmentally friendly.



◎ Running direction indication

The running direction and stop signal placed in the inlet and outlet of the handrail ensures the passengers' safety.



◎ Skirt panel brush

The skirt panel brush is on both sides of skirt and above the step (pallet), which protects the passengers' shoes from scraping the skirt and prevents the foreign body being jammed into the step (pallet).



◎ Heating device (For outdoor type)

The upper of the heating device is installed beside the traction machine of upper machine room to heat the upper machine room, and the middle part is installed in the middle of the escalator, and the under part is in the lower machine room to heat the entire step rail.

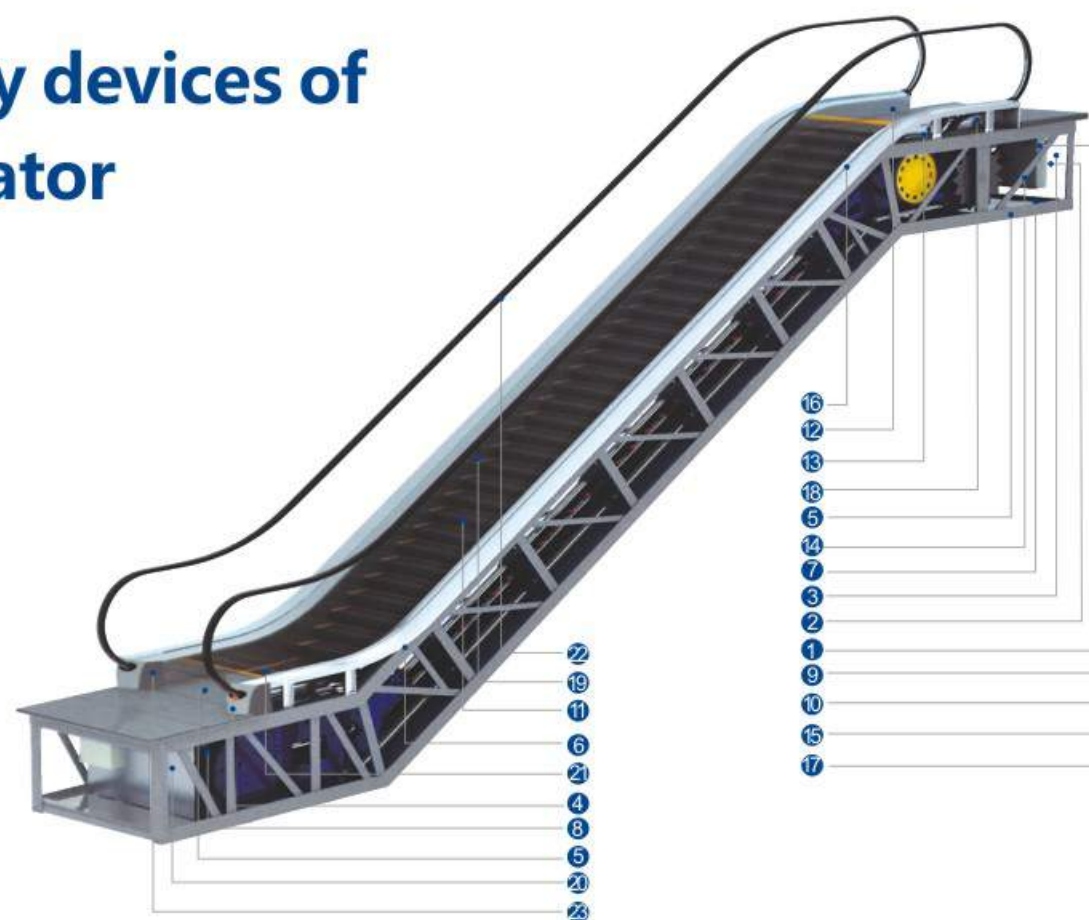
◎ The baseboard color



◎ Handrail color

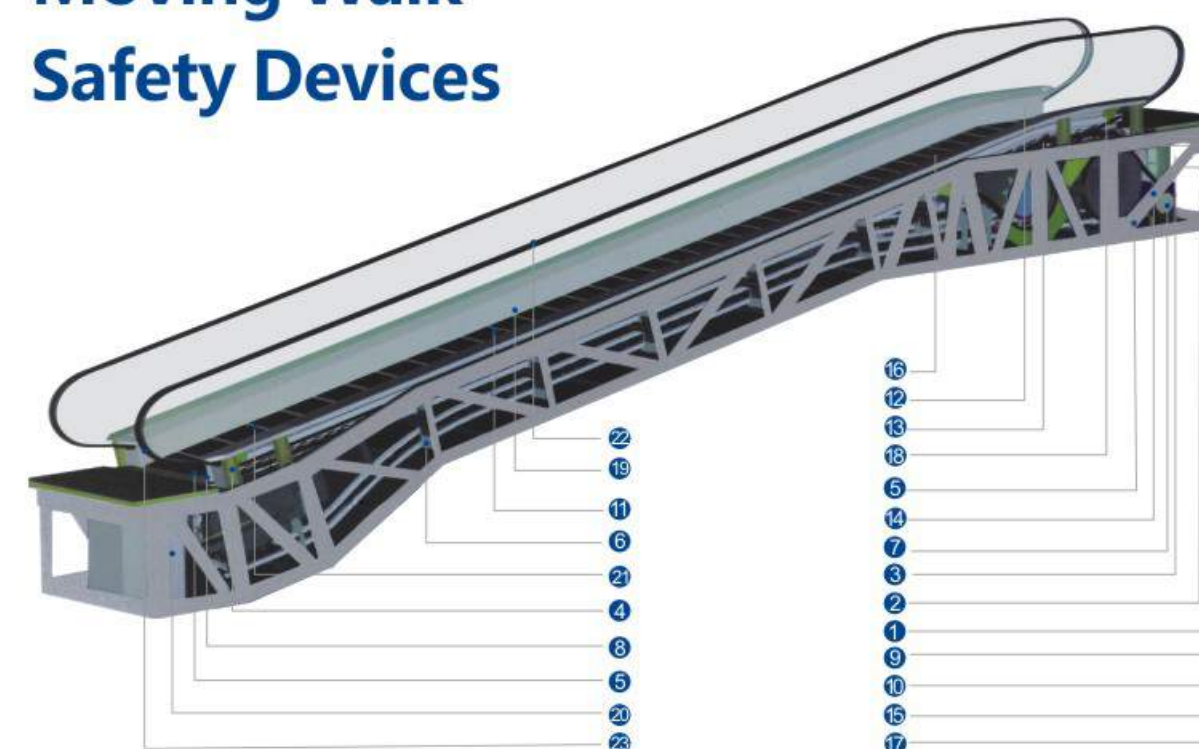


Safety devices of escalator



Function	Function description
1.Lack of phase, phase failure protection	Protection against risk of phase failure or lack of phase, the escalator (moving walk) will automatically stop.
2.Motor over-load protection	When the current exceeds 15% of the current rating, the escalator will automatically stop.
3.Electrical appliance loop protection	Automatic circuit disconnecting device is provided to protect the circuit and main components of the escalator (moving walk).
4.Handrail inlet protection	Protection against risk of sundries being jammed into handrail entry.
5.Comb plate safety device	Protection against risk of the sundries being trapped at the comb.
6.Step sagging protection device	When detecting the step is abnormally crooked, the escalator (moving walk) will stop running before the step entering into the comb plate.
7.Main drive chains safety protection	Protection against risk of drive chains being breakage or over-stretched.
8.Protection against step chain breakage	Protection against risk of step (plate) chains being breakage or over-stretched.
9.Over-speed protection	When the escalator (moving walk) is overspeed, it will automatically stop running.
10.Unintentional reversal protection	The escalator (moving walk) will automatically stop running when the unintentional reversal of the running direction.
11.Security line	The yellow synthetic resin security line on the both sides and in front of escalator's steps will protect the passengers from stepping into the edge of adjacent steps and the clearance between step and skirt. The warning line on both sides of step is above the surface of step (The yellow spray-painted warning line is optional for moving walk.)
12.Emergency stop button	When pressing the button, the escalator (moving walk) will stop running.

Moving Walk Safety Devices



13.Skirt panel protection	Protection against risk of sundries being jammed into clearance between steps (pallets) and skirt.
14.Brake protection	When the power shortage or any safety device acts, the brake device activates brake function by spring force to make the escalator (moving walk) stop running.
15.Inspection switch	The safety device prevents escalator from starting during the inspection and maintenance.
16.Step illumination	Step illumination is at the upper and lower ends of the escalator to alert the traveling safety.
17.Alarm bell starting device	The alarm bell rings when the escalator starts.
18.Handrail safety protection	Protection against risk of handrail being breakage
19.Skirt panel brush	Skirt panel brush is between the skirt and step to protect the passengers' shoes from scraping the skirt (Not limited to escalators).

Option functions	Function description
20.VVVF control technology	Effectively reduce energy consumption with frequency converter.
21.Comb lighting	Comb lighting is on the skirt panel near the comb plate to provide lighting for passengers.
22.Handrail lighting	Handrail lighting is in the handrail bracket.
23Automatic start / stop	The infrared sensor near the floor plate can detect passengers who enter the floor plate, and the elevator starts. When passengers leave, it will stop running to conserve energy. The scanning sensor and guide rod type are for your choice.

Arrangement



Single

This arrangement is flexible and covers small area. And the passenger flow is the one-way and intermittent. It is used in small shopping malls and stores.



Continuous

This covers more space than single arrangement, whose passenger flow is unidirectional and continuous, and it's applicable for medium and small department stores.



Parallel

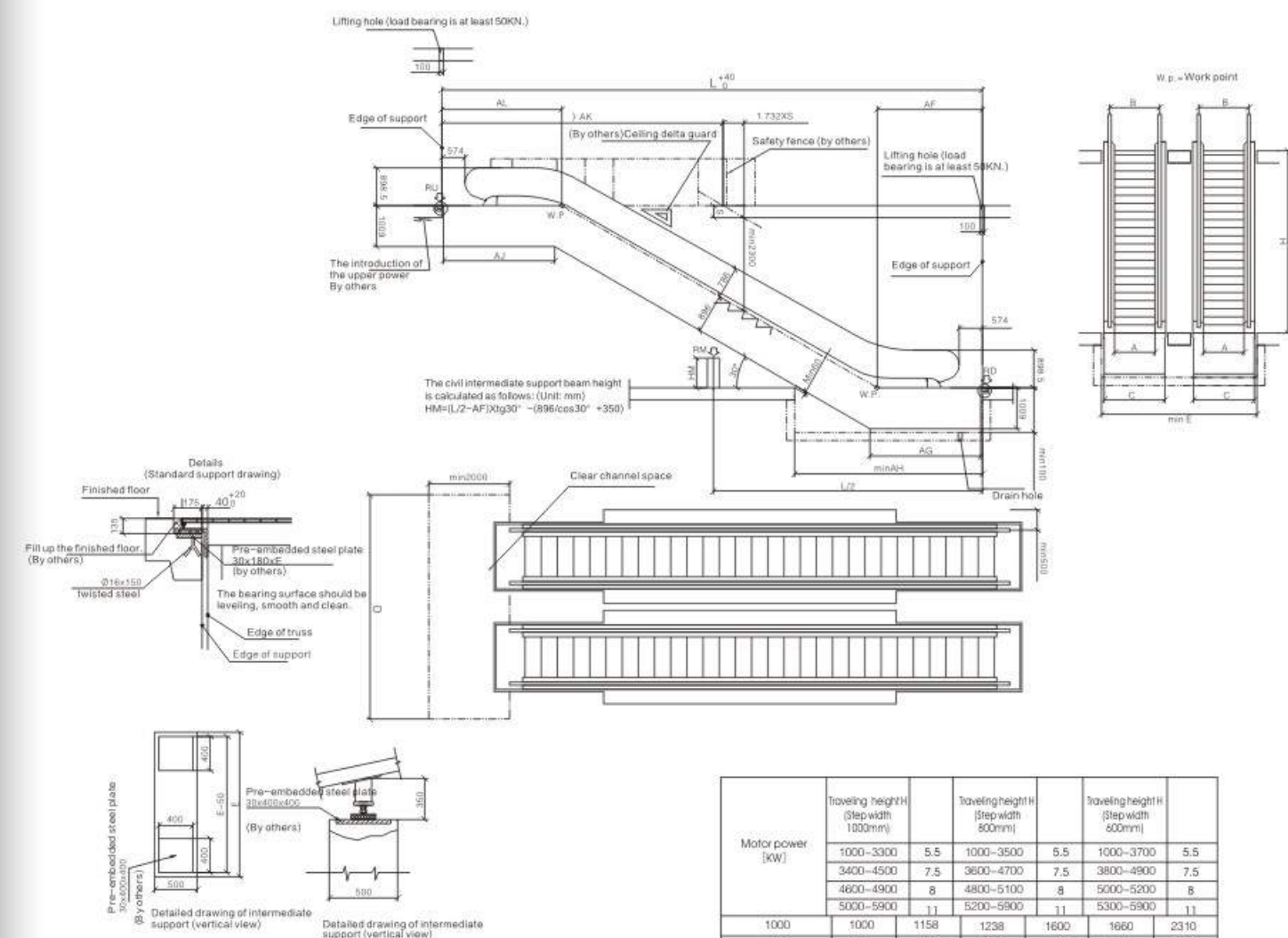
This arrangement is mainly applied to large shopping malls and public transportation with large passenger flow. Its flow is two-way and continuous. Adjusting the running direction of some escalators is a solution for unilateral passenger flow peak.



Cross

This arrangement is mainly applied to large department stores and public buildings to reduce the delivery times.

30° Escalator's Civil Diagrammatic Sketch



Note

1. When the escalator is installed on the first 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 1238mm, and the depth from handrail belt steering terminal to the front obstacle must be not less than 1500mm.
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, and it subjects to change without notice.

Motor power [KW]	Traveling height H (Step width 1000mm)		Traveling height H (Step width 800mm)		Traveling height H (Step width 600mm)	
	1000-3300	5.5	1000-3300	5.5	1000-3300	5.5
	3400-4500	7.5	3600-4700	7.5	3800-4900	7.5
	4600-4900	8	4800-5100	8	5000-5200	8
	5000-5900	11	5200-5900	11	5300-5900	11
1000	1000	1158	1238	1600	1660	2310
800	800	958	1038	1400	1460	2110
600	600	758	838	1200	1260	1910
Step width	A	B	C	D	E	F
Model	Traveling height mm			Motor power		
	mm	mm	mm	mm	mm	mm
FML(600)-30 (4500 persons/h) Speed : 0.5m/s	3000	57	46	41	2750	10900
	3500	60	49	44	2780	11890
	4000	64	52	47	2810	12880
	4500	68	56	50	2830	13870
	5000	71	59	53	2840	14860
	5500	75	62	56	2860	15860
FML(800)-30 (6750 persons/h) Speed : 0.5m/s	3000	59	52	47	2750	10900
	3500	63	56	50	2780	11890
	4000	67	60	54	2810	12880
	4500	71	64	57	2830	13870
	5000	74	68	60	2840	14860
	5500	82	74	66	2860	15860
FML(1000)-30 (9000 persons/h) Speed : 0.5m/s	3000	63	59	53	2750	10900
	3500	67	64	57	2780	11890
	4000	71	68	61	2810	12880
	4500	75	73	65	2830	13870
	5000	83	79	71	2840	14860
	5500	87	84	75	2860	15860
	6000	92	88	79	2870	16860

1. When the escalator's lifting height is in the range of 6000mm to 7800mm ($6000\text{mm} < H < 7800\text{mm}$), center support whose height $H_1 = H/2 - 1330$ should be set on the center of the truss supporting beam.
2. Load-bearing of upper girder: $R_1 = H \times 0.007 + 46$.
3. Load-bearing of bottom girder: $R_2 = H \times 0.007 + 36$.
4. Load-bearing of central support: $R_3 = H \times 0.0216 + 90$. 380V AC 50Hz three-phase five-wire power is provided by users. When the escalator starts, the voltage drop will be $\leq 10\%$. And under normal circumstances, voltage drop is 5% when the escalator is running. The maximum starting current should be less than 3.5 times the rated current.

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ESCALATORS & MOVING WALKS



Technical description		
α Angle	12°	
v Speed	0.5m/s	
Step width A	1000	800
Handrail inner distance B	1158	958
Handrail center distance C	1238	1038
Moving walk boundary dimension D	1600	1400
Length of load-bearing beam E	1660	1460
Exterior barrier width F	2310	2110
Pit width G	1660	1460
Load bearing capacity R1 (kN)	0.009xL1+22	0.0078xL1+19
Load bearing capacity R2 (kN)	0.009xL2+10	0.0078xL2+9
Load bearing capacity R3 (kN)	0.0117x [L1+L2]	0.01014x [L1+L2]
Load bearing capacity R4 (kN)	0.0117x [L2+L3]	0.0104x [L2+L3]

1. When the moving walk is installed on the second floor or above, the pit will be canceled and civil substructure and superstructure should be symmetrical.
2. Keep sufficient clear space in the entrance of the escalator, whose width shall be not less than 1310mm, and the depth from handrail belt 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 $2600 < H \leq 5800$, only support R3 is needed, and $L1=L2=L/2$.
7. When the traveling height H is $5800 < H \leq 7800$, support R3 and R4 are needed, and $L1=L2=L3=L/3$.
8. The drawing is civil size of standard 12" moving walk, if unable to perform as per standard drawing, please consult our escalator technology department.
9. All dimensions in mm, and it subjects to change without notice.

Technical drawings of a semi-outdoor moving walkway, including plan and side elevation views.

Plan View Details:

- Dimensions:**
 - Pit depth = 1100
 - Pit length 3300
 - Pit length L1
 - 300 < L2 < 6000
 - L4
 - 300 < L12 < 6000
- Components:**
 - Finished floor R1
 - Power incoming line
 - Driving terminal
 - Rotating terminal
 - Supporting beams (L4)
 - Intermediate supporting beams (n = number of intermediate supporting beams = 2)
 - Lifting point right above the moving walk axis / loading capacity 50KN
- Formulas:**
 - $L = 4.7046 \times (H - 17) + 2895$ 12"
 - $L = 5.1448 \times H + 2895$ 11"
 - $L = 5.6713 \times (H + 17) + 2895$ 10"

Side Elevation View Details:

- Dimensions:**
 - Base length D
 - Base width A
 - Base height C
 - Boundary dimension C
 - Horizontal center distance
 - Roller width A
- Components:**
 - III (1:10)
 - IV (1:10)
 - Finished floor
 - Pre-embedded steel plate (By others)
 - Embedded part diagrammatic sketch (By others)
 - Semi-outdoor, outdoor moving walk demanded configuration (By others)
 - 2 enforced drain hole with 200mm diameter (By others)
- Formulas:**
 - Levelness requirement < 1/1000

Pallet width		1000		800	
Intermediate supporting spander gider distance L4		6000	10000	6000	10000
Load bearing capacity (kN)	R1	40	38	35	34
	R2	34.5	34	32	31
	R3	62.5	78.5	52	64.5
	R4	63.5	79.4	54	66.6
	R5	48	79.4	40	66.6
Motor power / rated current		Conveying length L		Conveying length L	
		10000~70000		10000~80000	
		8KW/18A		8KW/18A	
		70001~110000		11KW/25A	
		11KW/25A		80001~110000	
				11KW/25A	

Notes

1. 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.
2. 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 two times than the handrail center distance, the depth can be reduced to 2m.
3. 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 place 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 under the upper supporting beam with resistance less than 4 ohm. 2m incoming line allowance is needed. And please refer to Table left about the 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		
α Angle α	0-6°	
V Speed	0.5m/s	
Pallet type	Aluminum alloy (indoor/semi-outdoor/outdoor)	
Pallet width A	1000	800
Handrail center distance B	1238	1038
Boundary dimension C	1600	1400
Bearing beam length D	≥ 1600	≥ 1400
Installation/drive mode	Length L1	
Indoor/star delta	4000	4000
Indoor/ VVVF		
Semi-outdoor/star delta		
Semi-outdoor/ VVVF	4600	4600
Outdoor/star delta	4000	
Outdoor/ VVVF	4600	
Power supply	380V AC 50Hz three-phase five-wire power is provided by users. When the escalator starts, the voltage drop will be $\leq 10\%$. And under normal circumstances, Voltage drop is 5% when the escalator is running. The maximum starting current should be less than 3.5 times the rated current.	



Full-cours dervice,
heart-to-toheart connection



Service not only to ensure safety, protect your investment in equipment, the real service is to anticipate and meet the special needs of customers. Because the definition of services with different customer needs and different ways to meet those needs we also extensive and personalized.

◎ Maintenance

Professional and full scheduled elevator maintenance service centering "prevention first, servicing first" guarantees running in safe and high-efficiency way, and can keep value of and appreciate customer's property.



◎ Repair/upgrade

Elevator component may be worn, and appearance and function may gradually get out-of-date upon years of running. Based on current elevator configuration, in ENENG repair/upgrade solution, auxiliary hardware is added or system is improved as customer demand to improve safety, reliability, running efficiency and comfort and always meet passenger's expectation.



◎ Moderanization update

Out-of-date system is replaced with the most advanced modern electrical control system, meanwhile valuable key mechanical components are reserved. On the basis, value of brand-new elevator is brought without cost of new elevator or impact on normal operation of building.

