

## Global Service Network-Overseas Area

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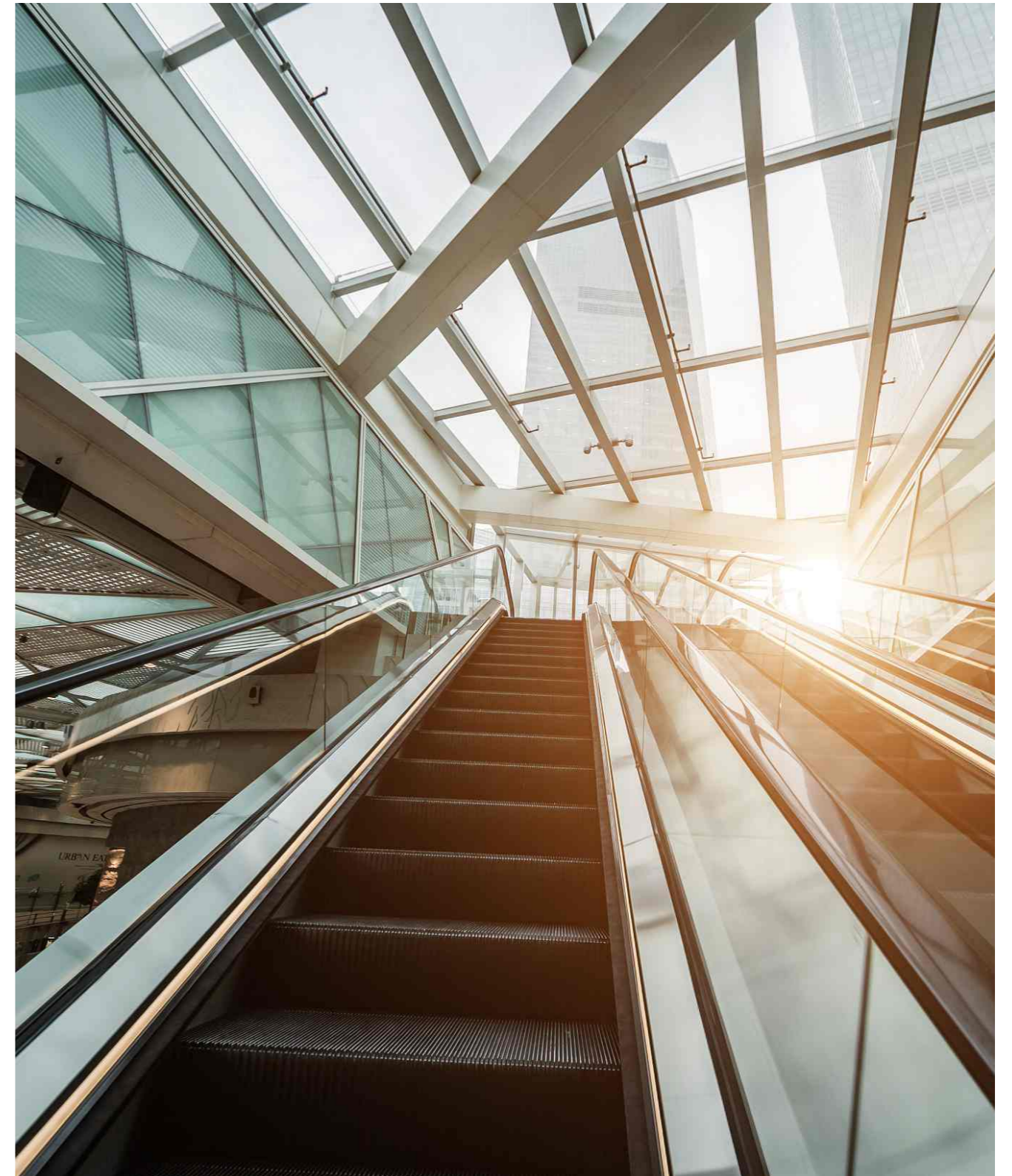
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The image and content are just for you reference and please be subject to the actual products. Please pardon us for not informing you in advance if anything updated.

Please contact IFE for details.

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## GRACES/T2 escalator /moving walks

Trusted by the World  
Stock code: 002774





## MOVING&SERVING

- Chinese A-share listed enterprises, Stock code 002774
- The first batch of elevator enterprises with A-level manufacturing, A-level installation, A-level transformation and A-level maintenance qualifications issued by the AQSIQ
- It has an industrial production base covering an area of 110000 square meters with internationally leading elevator and escalator double testing tower
- National high-tech enterprise, provincial elevator R&D center enterprise
- Our products are sold to 33 countries and regions in 5 continents
- More than 100 branches and service outlets worldwide
- Covering more than 300 prefectures and cities in China;
- More than 2000 county-level administrative regions
- More than 1000 after-sales and engineering technicians



## People-oriented, to Create a Safe and Comfortable Experience for Passenger

Perfect and magnificent for better life

IFE GRACES escalator series and T2 moving walks are actively involved in the construction of high speed urbanization, provide high-end elevator solutions for passenger with advanced technology, safe and reliable performance, durable quality, high intergration technology advantages and enjoyable and comfatotable experience in the way of up and down



hotel



shopping mall



buisness center



public hub

Trust  
from the pursuit of quality and safety



Malaysia IDCC shipping Mall Project



PHILIPPINES CHINA TOWN PROJECT



Malaysia JKCC Shopping Mall Project



Indonesia Metland Telaga Murni Station Project



THE PHILIPPINES BAI HOTEL



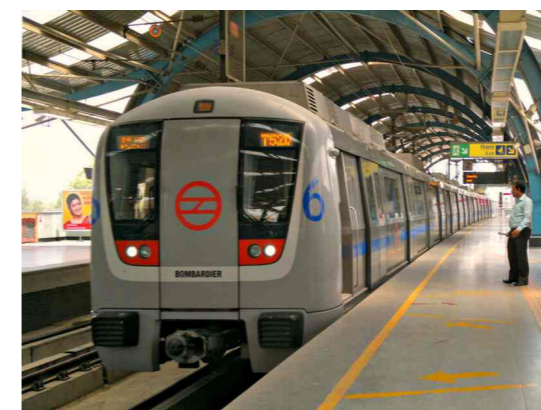
Philippines LRT-2 Rail Project



Indonesia PALMERAH Metro Project



Shopping mall of RIENTAL PLAZA in  
Johannesburg, South Africa



Metro line CE-19 in New Delhi, India



Mumbai Metro Project

# Trust from the pursuit of quality and safety



Dongguan UCC Project



Huibang Shanxi SOHO Modern commercial plaza Project



Guizhou Wuxingxingang Estate Project



Shanxi Wanmashi Shopping



Shenyang ITCC Project



Jiamusi Colorful Times Square Project



Tianjin HUI CEN International Commercial and Trade center Project



Hong Kong Lok Fu Shopping Center Project



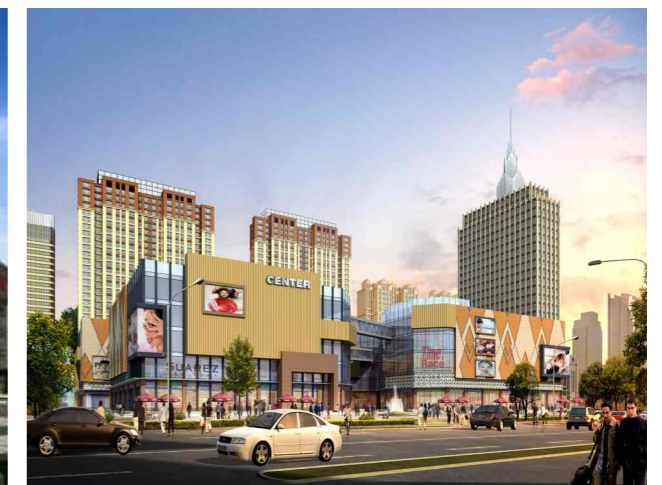
Yunnan Hongshengda Commercial Centre Project



Foshan Shibo Plaza Project



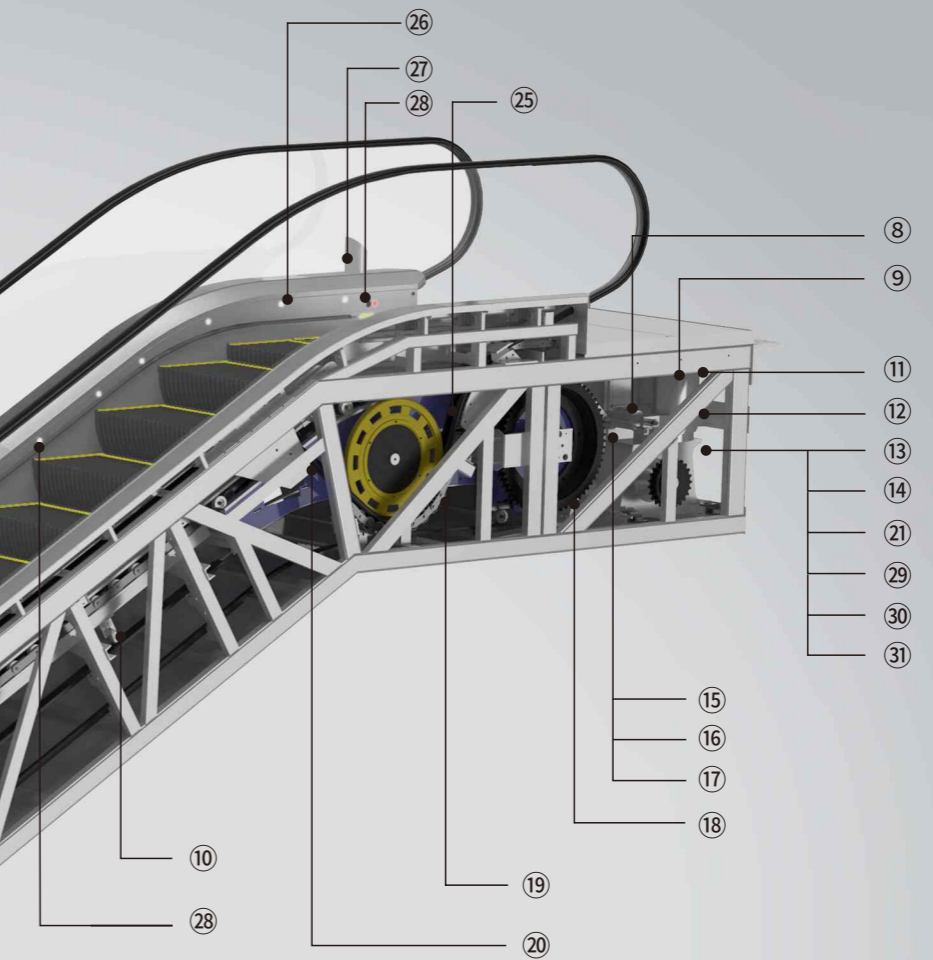
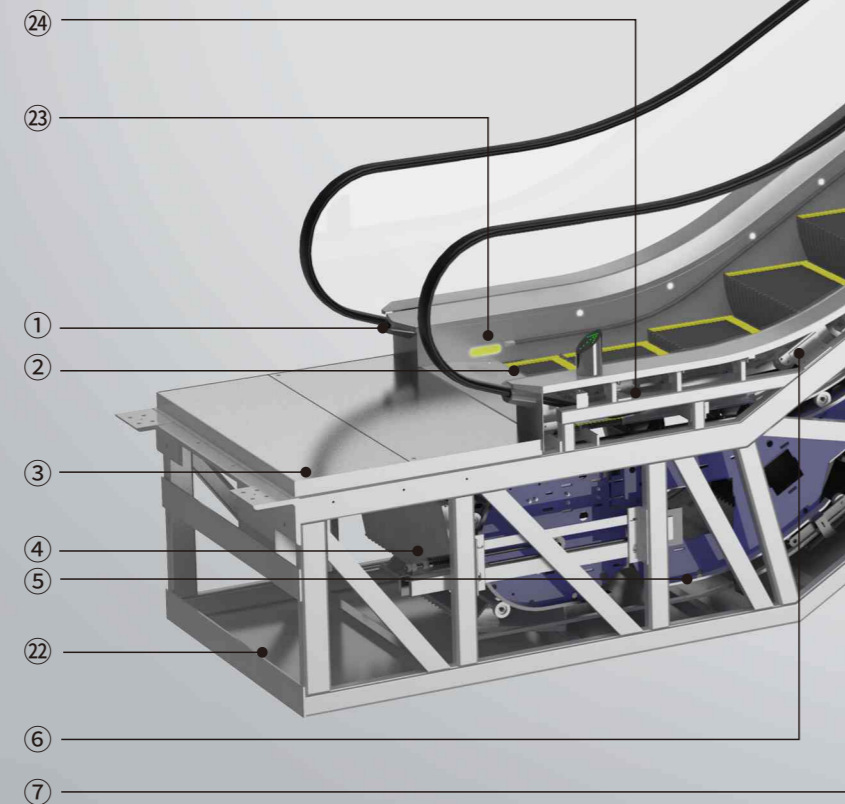
Jiangsu Muyang Yexing Furniture International Plaza Project



Datong Zhengde Plaza Project

# Multiple security technologies and all-round protection design

- ① Handrail entry protection
- ② Comb contact protection
- ③ Floor pallet missing protection function
- ④ Broken step chain protection
- ⑤ Step missing protection
- ⑥ Handrail speed monitoring
- ⑦ Skirting transformation protection
- ⑧ Service brake open detection function
- ⑨ Over-load protection function
- ⑩ Step sag contact protection
- ⑪ Motor shield prevent opening
- ⑫ Main motor brake shoe detection function
- ⑬ Contactor adhesion protection
- ⑭ Fault display function
- ⑮ Over-speed protection function
- ⑯ Unintentional reversal of the travel direction



- ⑰ Power supply phase loss and phase fault protection
- ⑱ Broken drive chain protection
- ⑲ Step missing protection
- ⑳ Step gap illumination
- ㉑ \*Variable frequency function
- ㉒ \*Water level detection function
- ㉓ \*Comb plate illumination
- ㉔ \*Handrail broken protection
- ㉕ \*Additional braking function
- ㉖ \*Skirting illumination
- ㉗ \*Intelligent direction light function
- ㉘ \*Voice announcer
- ㉙ \*Earthquake closing down
- ㉚ \*Fire alarm protection
- ㉛ \*Monitoring function

\* stands for non-standard configuration ,and they need to be customized by demands of the escalator type, please consult the local sales representativr of IFE for the details

### Handrail speed measurement protection

When the speed of the handrail deviates from the actual speed of the step (pedal or tape) by more than 15% and lasts for 5~15s, PESSRAE automatically cuts off the safety circuit, and the escalator stops running and reports a fault.



### Tractor base with high strength avoiding displacement

Under scientific mechanical calculation, the steel plate is stronger and thicker, with stronger compressive property and longer and stabler working time. Multi fixed place designation, selection with high strength bolt to anti-cutting, failure, and loose. Accurate traction machine limiter, machine position is fixed at strong position, double prevention for the traction machine displaced.



### Additional brake

If any of those situations happens to escalator or moving walkway  
-Power failure or loss of power in the safety circuit  
-Drive chain break  
-The descending speed surpasses 1.4 times nominal speed  
-Reversal  
Make the escalator or moving walkway stop at the reduced speed effectively and keep it in the still status to guard the passenger's safety.

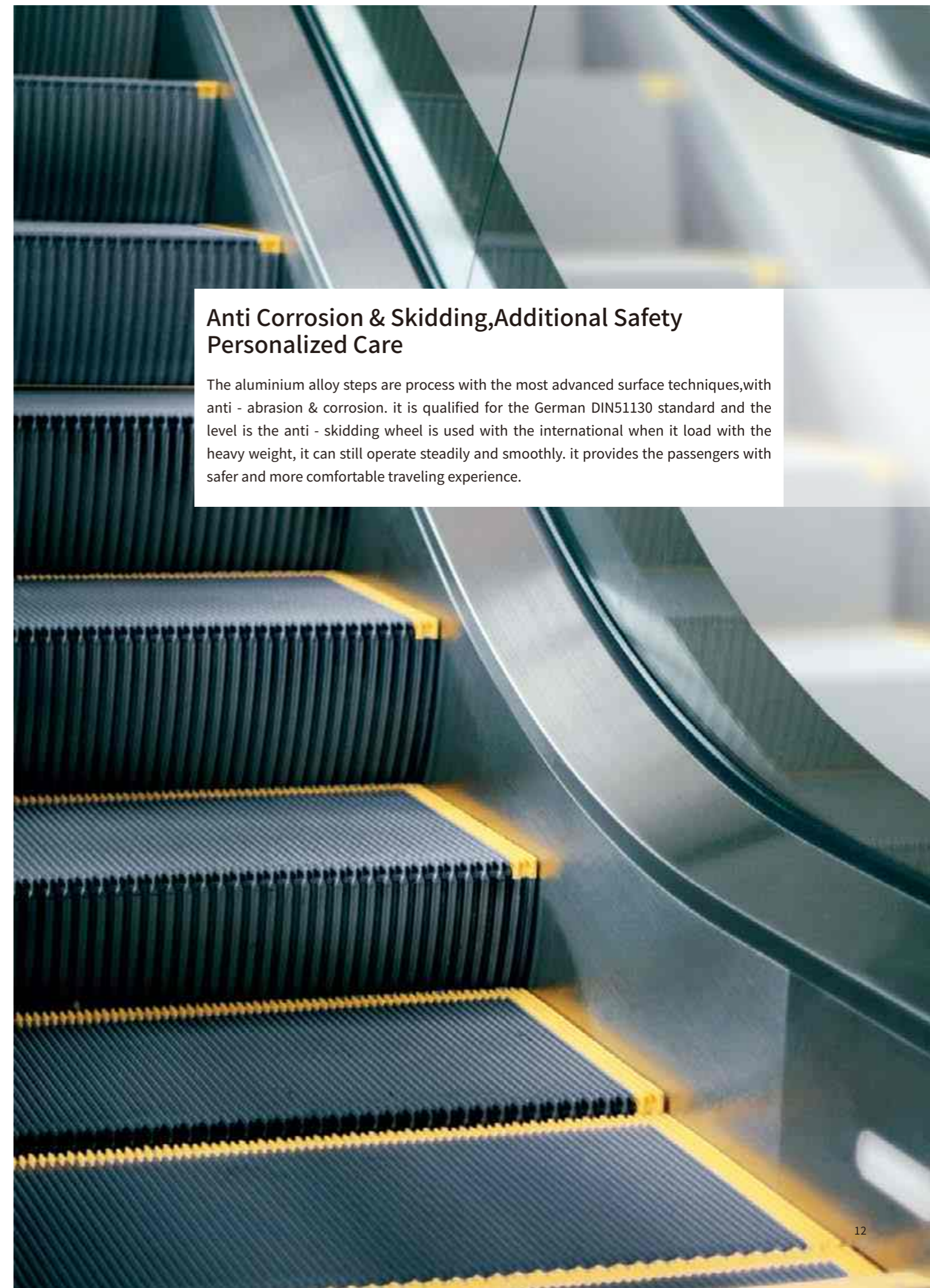


### Overspeed protection

Schneider is used as the overspeed protection sensor to prevent potential safety hazards caused by excessive running speed of the escalator.

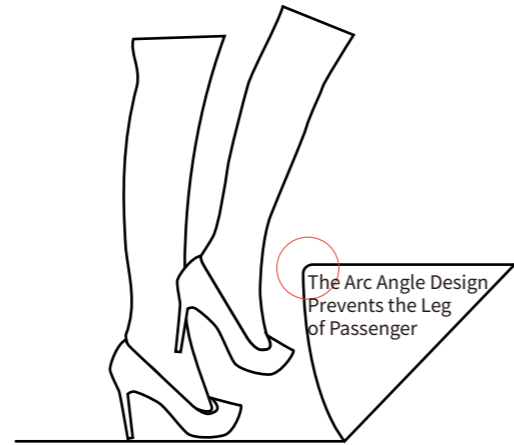
### Reverse travel safety protection

The actual running direction of the escalator is judged by the logic sequence of the pulse signal of the speed sensor to prevent reverse running. If the drive chain breaks and the speed sensor fails, the drive chain protection switch will also act and the escalator will stop running to ensure that there is no risk.

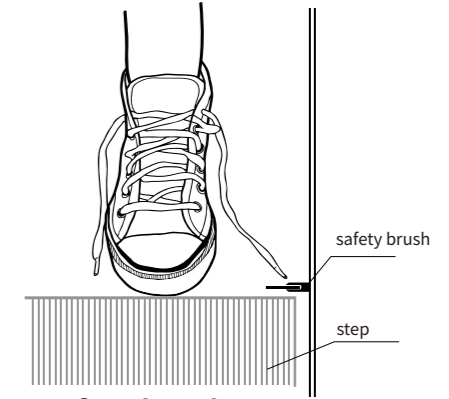
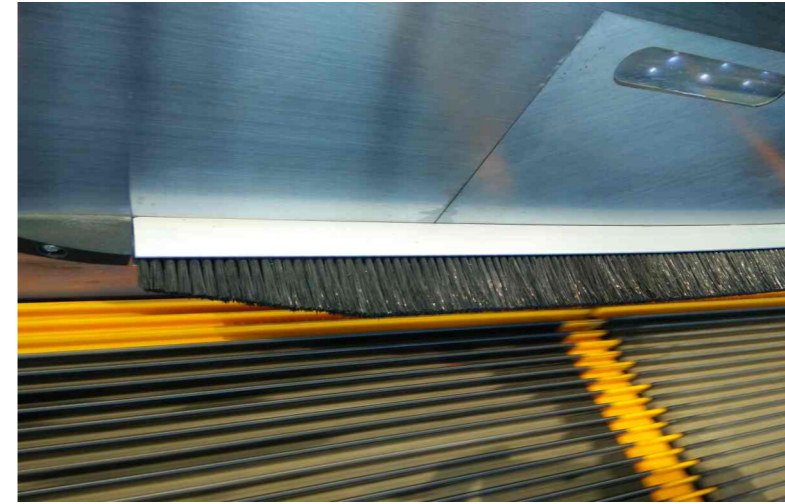


**Anti Corrosion & Skidding, Additional Safety Personalized Care**

The aluminium alloy steps are process with the most advanced surface techniques, with anti-abrasion & corrosion. It is qualified for the German DIN51130 standard and the level is the anti-skidding wheel is used with the international when it load with the heavy weight, it can still operate steadily and smoothly. It provides the passengers with safer and more comfortable traveling experience.



Anti scratch design for the round corners of the steps, paying more attention to the safety of passengers



**safety brush**

It positively protects the passengers to approach the skirt board, and avoid the debris and shoelaces to clip into the skirt board.

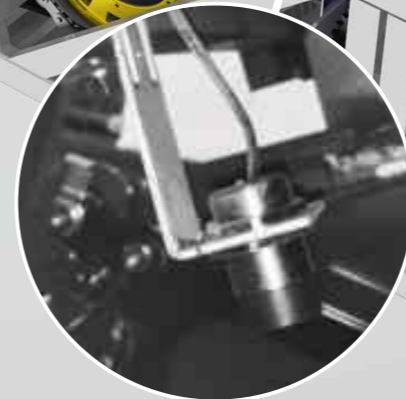
**Missing Step Protection**



A high-sensitivity sensor is set 2 meters away from the upper and lower steering ends of the escalator to prevent the empty steps from overturning to the working surface of the escalator and prevent safety accidents

**Floor Plate Anti-Rollover Protection**

Bolt combination is adopted for fixation, and the inherent support is used to support multiple protections to effectively control the overturning phenomenon and protect the safety of passengers





# Quality

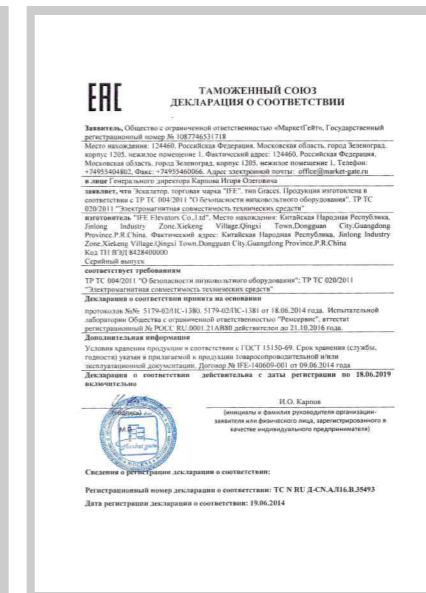
Lean management achieves continuous improvement, quality position wins international recognition



European Union CE Certification



Russian CU Certification

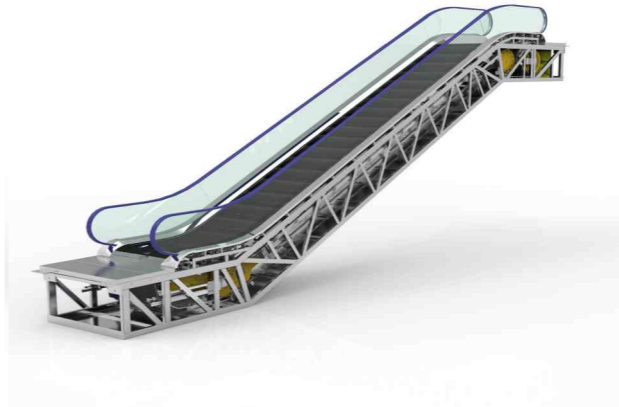


public transportation escalator certification





## High strength truss platform to prevent accidental collapse



### Large truss design with stronger rigidity

The truss adopts finite element analysis, and its rigidity and torsion resistance reach the international advanced level. The full load deformation of the whole escalator is only 1/1500 higher than the national standard (national standard 1/750 for ordinary escalators and 1/1000 for public transport escalators).



### Arch-shaped designation, carrying the Joint Force

It was supported by scientific new system designation. The arch-shaped components and truss components are connected. By carrying the force together, it apparently reduced the bending moment and the deflection of the truss components, and avoided the distortion of truss components efficiently.



### Large support, carrying the force uniformly

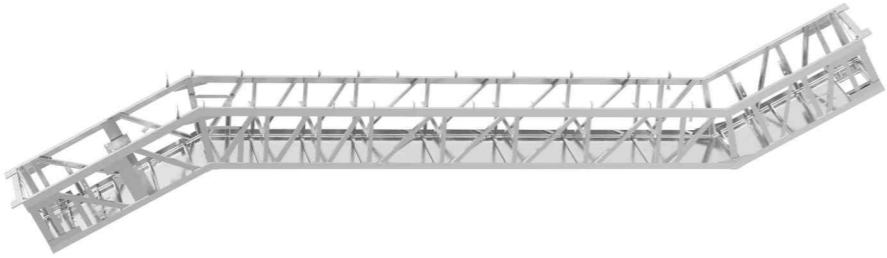
The new designing plans are supported by automatic escalator with super-span. The large support in the middle area effectively relieves the weight of the whole escalator. Scientific force design enhances the stability of super-span truss, making it carry the force more uniformly and the stability higher.

## The service life of truss is up to 30 years, and the quality is superior to international standards



### Instrument with High Precision for the thickness

Test the thickness of electrophoresis paint film precisely, and identify the film automatically. The thickness of the film is 100μm.



### Truss surface handling

Truss can be adopted the handling way of hot dip zinc with rust prevention. The thickness of the surface of zinc layer is 80μm at least, and the maximum can reach 110μm. Enable to guarantee the truss of escalator and walkway are in use in the severe environment.



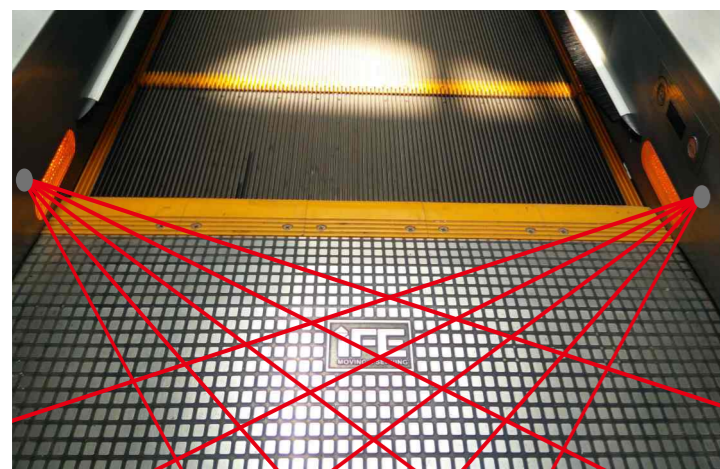
### Energy Conservation and Environmental Protection

Advanced VVVF energy-saving technology, it helps the escalator to conserve energy and save operational cost.

### Applicable scope of each escalator type

Model	specification		Applicable environmental scope
	30°	35°	
GRACES-ID	1500mm ≤ H ≤ 8000mm	1500mm ≤ H ≤ 6000mm	Indoor commercial buildings
GRACES-III	1500mm ≤ H ≤ 8000mm	1500mm ≤ H ≤ 6000mm	Outdoor commercial buildings
GRACES-LD	1500mm ≤ H ≤ 9500mm	--	Outdoor/indoor (subway station, high-speed railway station, airport and other public transport)
GRACES-HD	1500mm ≤ H ≤ 18000mm	--	Outdoor/indoor (subway station, high-speed railway station, airport and other public transport)
T2	L ≤ 48906mm		Indoor commercial buildings

Note: H represents the lifting height (mm), and L represents the length of the use section of the moving walks (mm).



### Advanced frequency VVVF energy-saving technology, efficient energy-saving intelligent operation

The escalator entrance and exit form a complete intelligent operation system through the master control system, human body sensing system and direction system. The system selects different operation modes according to the passenger flow, completely solves the problem of power consumption caused by uneven passenger flow of the escalator, and saves power for users to the greatest extent.

# GRACES SERIES/T2 MOVING WALK FUNCTION TABLE

## BASIC FUNCTION

### Operation function

01	Bi-directional travel model	There is key switch in the upper/lower operation panel of escalator which can operate the escalator runs upward/downward according to the travelling direction
02	Inspection mode operation	There is inspection socket in the upper/lower controller. Open one inspection socket, close the other one, then insert the inspection plug inside the inspection box into the socket which can control the escalator inching upward/downward, in order to do maintenance easier
03	Automatic lubrication	The escalator can be automatically lubricated 6 minutes after running 36 hours in total (the time can be reset), in order to lubricate the drive chain and traction chain, improve the running performance, prolong the lifespan
04	Alarm bell device	Before the escalator running, the alarm bell will ring 5 seconds to remind the escalator start. After the bell ring disappear, the passenger can only take the escalator.
05	Yellow demarcation line of Pallets	There is a yellow demarcation line in two sides of each step to remind the passenger not to stand out of the range of yellow demarcation line
06	Sequence starting function	During the escalator running, insert the key and rotate one time (regardless of the direction), which can realize the sequence starting. Now even turning the starting key on either direction does not affect the travel of the escalator

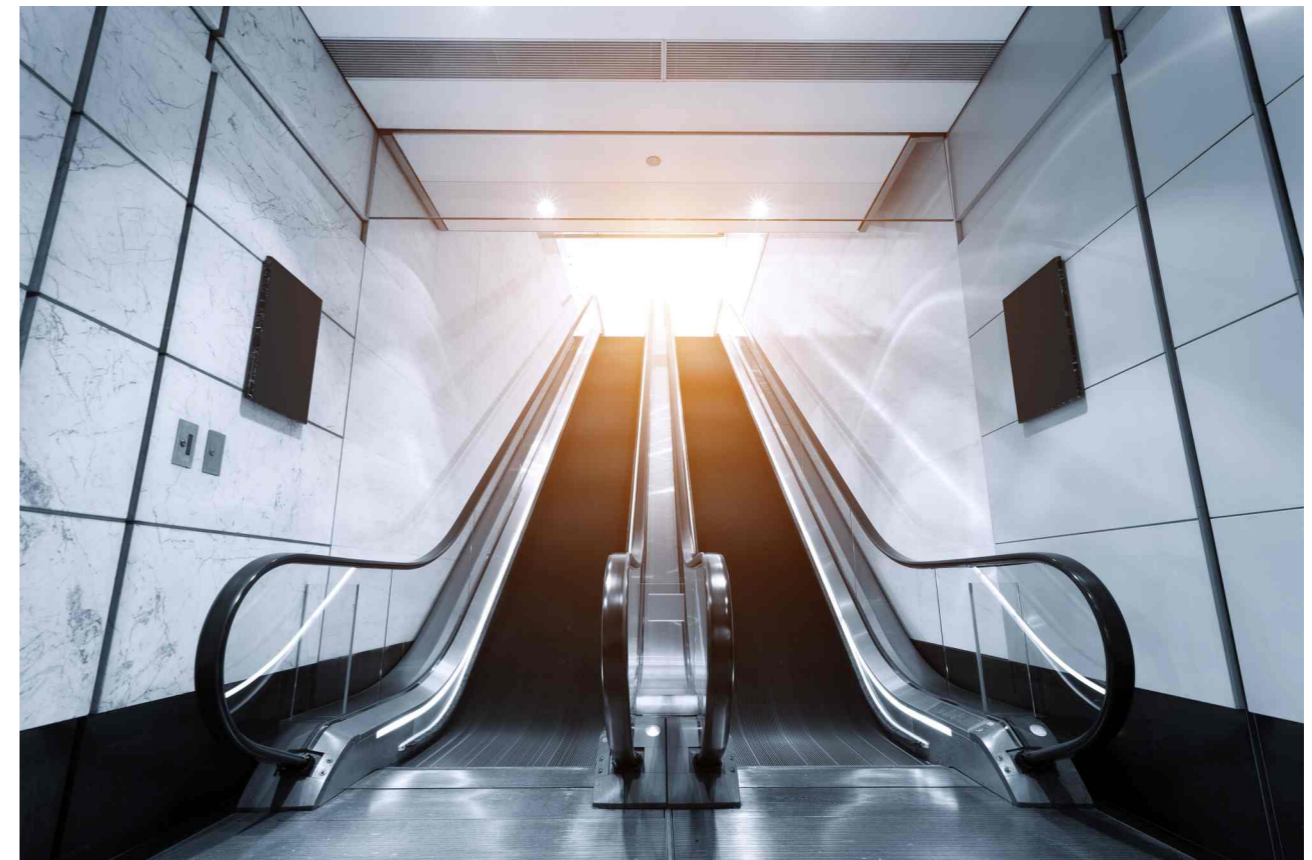
### Safety functions

07	Broken drive chain protection	When drive chain broken or prolong, touch the safety protection switch, cut off the power and brake
08	Comb contact protection	When there is obstruction between step and comb, comb plate will move backward and approach the safety switch to make the escalator automatically stop
09	Handrail entrance contract protection	There are safety protection device in the 4 entries of handrail belt. If any obstruction or hands of passengers get into the entrance, touch the safety device switch, the safety switch will act: cut off the power and brake
10	Skirting contact protection	When there is obstruction between the skirting and step, make the skirting plate stress deformation, it will approach the safety switch act: cut off the power and brake
11	Step sag contact protection	When step sags, step kick plate will touch the safety contact, the safety switch will act: cut off the safety circuit and brake
12	Broken step chain protection	When any step traction chain broken or prolong, switch will immediately act: cut off the power and brake
13	Phase Monitor Protection	When phase loss, phase broken or phase reversal, phase relay will act: cut off the safety circuit, transmit a signal to stop the escalator and report the fault
14	Over-load protection Device	when escalator overload or overheating, overload protection device will act: cut off the safety circuit, transmit a signal to stop the escalator and report the fault
15	Motor shield prevent opening	When the shield is opening, on-off action, will automatically cut off the safety circuit to stop the escalator and report the fault
16	Unintentional reversal of the travel direction	When the setting and actual traveling direction of escalator is of contrary, PESSRAE will automatically cut off the safety circuit, transmit a signal to stop the escalator and report the fault
17	Over-speed protection function	When actual speed of escalator exceeded 120% than of the nominal speed, PESSRAE will automatically cut off the safety circuit, transmit a signal to stop the escalator and report the fault
18	Handrail speed monitoring	When handrail actual speed deviates from the step or the belt actual speed exceeded 15% for more than 15 seconds, PESSRAE will automatically cut off the safety circuit, transmit a signal to stop the escalator and report the fault
19	Step missing protection	when step misses, inspection device operates, PESSRAE will automatically cut off the safety circuit, transmit a signal to stop the escalator and report the fault
20	Floor pallet missing protection	When floor pallet missing, floor pallet inspection device acts: cut off the safety circuit, transmit a signal to stop the escalator and report the fault
21	The brake open to test	when start without the brake opening, PESSRAE will automatically cut off the safety circuit, transmit a signal to stop the working
22	Contact guard function	During the escalator stops, if the contactor has adhesion failure, the protection function will act and all operation will be invalid which can only solve the problem after removing the adhesion failure and power reset
23	Step gap illumination	There are green illuminating lights under the upper/ lower ending steps of the escalator to make passengers see the step edge clearly to avoid danger
24	Fault display	There is fault display board inside the controller which can display the normal operation status and safety switch fault situation

## OPTIONAL FUNCTION

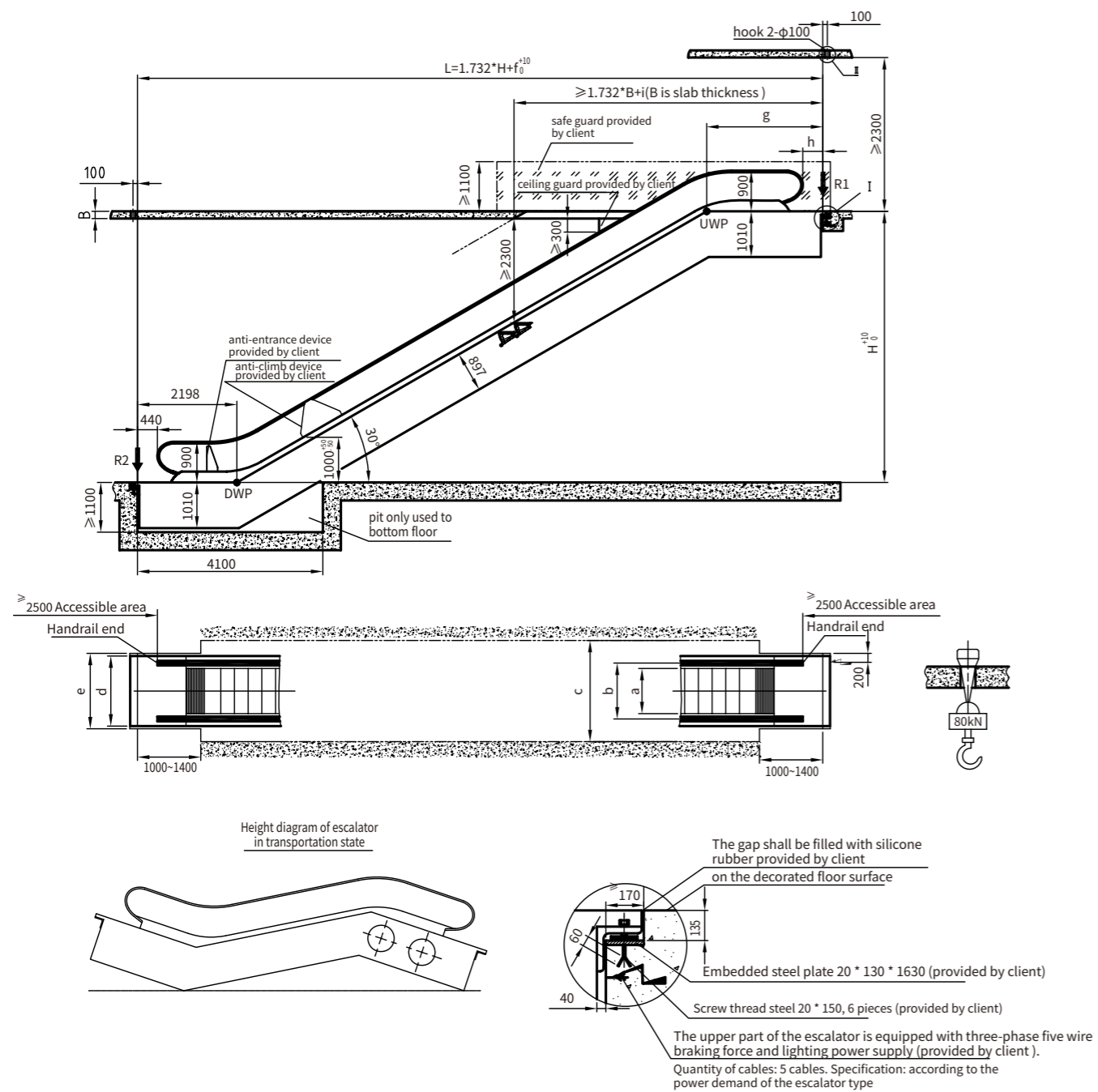
### Optional functions

01	Intelligent direction lights	In the upper/lower entrances of the escalator to remind the passenger the correct travelling direction
02	Handrail Broken Protection	when the handrail is broken or prolong, safety protection switch will act: cut off the power and brake.
03	Additional braking	When abnormally reverse or the drive chain is breaking, the additional break will stop the elevator in safety
04	Frequency conversion	Based on the customer's request, by spin the key switch up & down to choose different operation model
05	Comb plate illumination	There are white illuminating lights on the top of the upper/ lower leveling comb plate to make passengers see the edge between comb plates and step clearly to avoid danger
06	Skirting illumination	The LED light bar is installed on top of skirting board to make passengers keep distance from the skirting board to avoid danger
07	Handrail Belt illumination	The LED light bar is installed inside handrail profile to make passengers hold the handrail tightly and decorate the escalator
08	Voice prompt	When travelling, the loudspeaker will frequently repeat to remind the passenger to mind the safety & arriving level. The voice signal is supplied by the buyer
09	Earthquake closing down	When break out the earthquake, will stop to protect the passengers and device. The earthquake
10	Fire alarm protection	When break out the fire, will stop to protect the passengers and device. The fire alarm signal is supplied by the buyer
11	Monitoring system	This function contains up and down, stop, malfunction display and remote stop of each set, easy for the administrator to control
12	Ladder heating function	The heating function is utilized to preheat the whole rotary step before booting the escalator at the low temperature of outside, which melts the ice to prevent the passenger from slipping and protect the step
13	Main motor brake shoe wear detection function	Main motor brake shoe wear detection device is installed in escalator drive, protecting the motor efficiently
14	Water level detection function	Water level detection device is set in the lower machine room of escalator. When the water in the machine room is beyond the warning line, the escalator stops running with the water level detection acting



# escalator layout and specification

## GRACES ID-30° (H ≤ 6m)



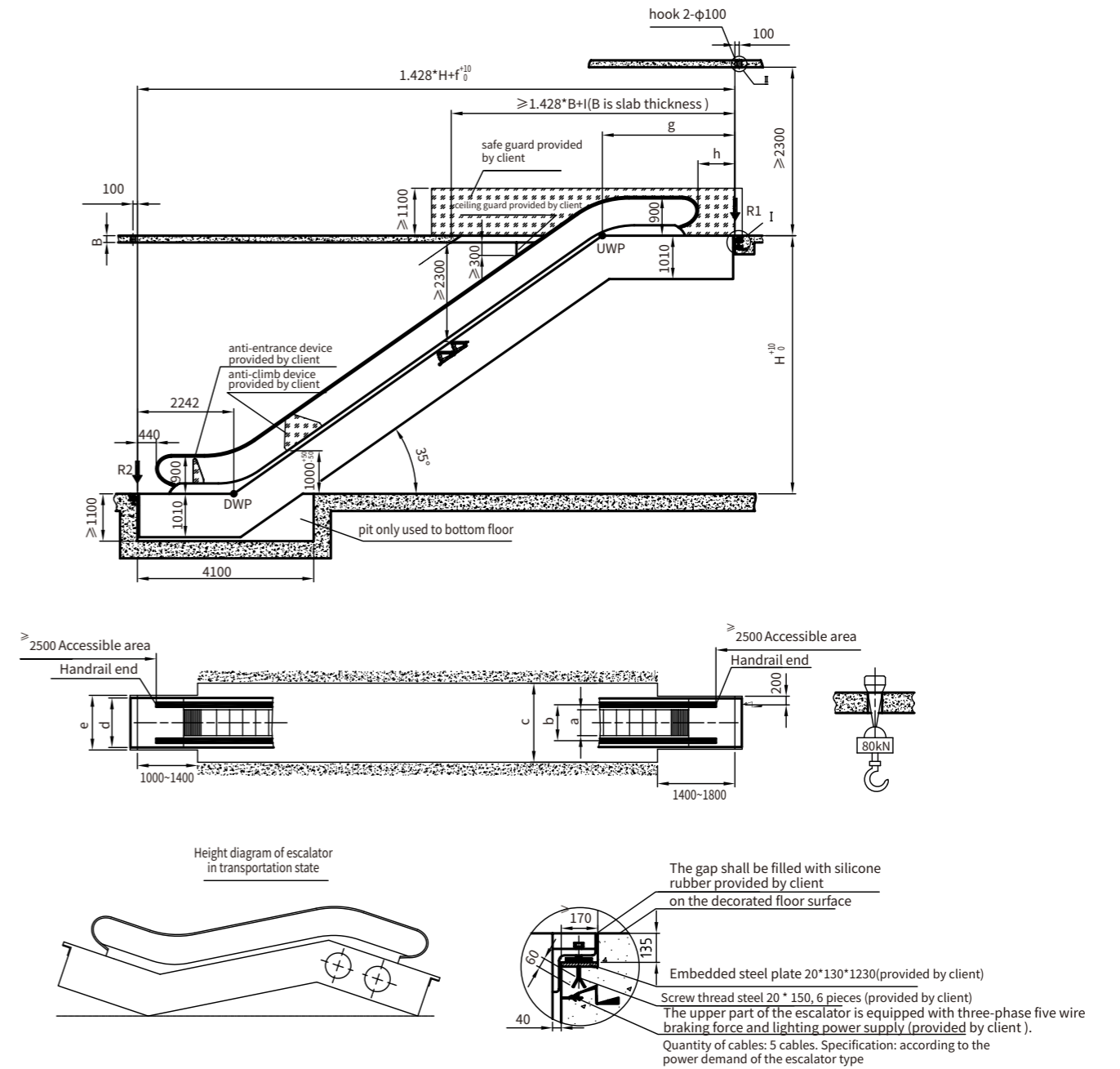
Company: mm

	600	800	1000
a	600	800	1000
b	837	1037	1237
c	≥1840	≥2040	≥2240
d	1150	1350	1550
e	≥1270	≥1470	≥1670
f	5182	4765	4765
g	2984	2567	2567
h	857	440	440
i	7168	6751	6751

Note: 1. R1 and R2 respectively represent the supporting force of single escalator at R1 and R2 supporting positions (kN)  
 2. Number of step horizontal operation: 2  
 3. Handrail: safety tempered glass. Height of handrail: 900mm  
 4. The contents and data shown in the above figure are only for model selection, and cannot represent all the specifications of IFE. If you have specific needs, please contact the local sales representative of IFE Elevator to obtain the latest detailed drawing information.

step width (mm)	travel height (mm)	single escalator weight (kg)	R1 (kN)	R2 (kN)	motor power (kW)
600	3000	5700	46	41	5.5
	3500	6000	49	44	
	4000	6400	52	47	
	4500	6800	56	50	
	5000	7100	59	53	
	5500	7500	62	56	
6000	7900	65	59	8	
800	3000	5900	52	47	8
	3500	6300	56	50	
	4000	6700	60	54	
	4500	7100	64	57	
	5000	7400	68	60	
	5500	8200	74	66	
6000	8600	78	69	11	
1000	3000	6300	59	53	8
	3500	6700	64	57	
	4000	7100	68	61	
	4500	7500	73	65	
	5000	8300	79	71	
	5500	8700	84	75	
6000	9200	88	79	11	

## GRACES ID-35° (H ≤ 6m)



Company: mm

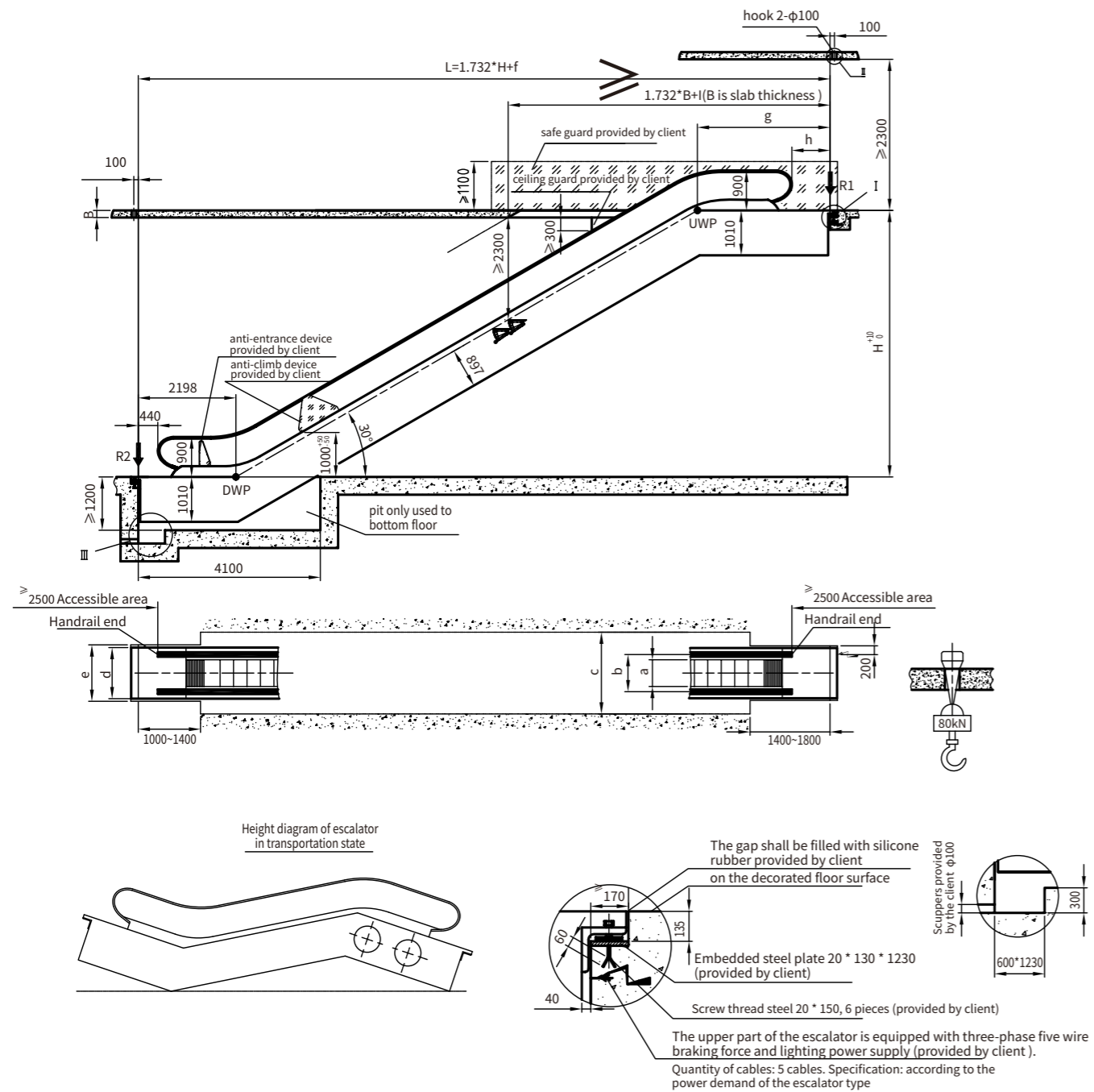
	600	800	1000
a	600	800	1000
b	837	1037	1237
c	≥1840	≥2040	≥2240
d	1150	1350	1550
e	≥1270	≥1470	≥1670
f	5322	4905	4905
g	3080	2663	2663
h	857	440	440
i	6565	6148	6148

Note: 1. R1 and R2 respectively represent the supporting force of single escalator at R1 and R2 supporting positions (kN)  
 2. Number of step horizontal operation: 2  
 3. Handrail: safety tempered glass. Height of handrail: 900mm  
 4. The contents and data shown in the above figure are only for model selection, and cannot represent all the specifications of IFE. If you have specific needs, please contact the local sales representative of IFE Elevator to obtain the latest detailed drawing information.

step width (mm)	travel height (mm)	single escalator weight (kg)	R1 (kN)	R2 (kN)	motor power (kW)
600	3000	5400	43	39	5.5
	3500	5700	46	41	
	4000	6000	49	44	
	4500	6400	52	46	
	5000	6700	54	49	
	5500	7000	57	51	
6000	7300	60	54	8	
800	3000	5600	49	44	8
	3500	6000	52	47	
	4000	6300	56	50	
	4500	6600	59	53	
	5000	7000	62	56	
	5500	7300	65	59	
6000	7600	69	61	11	
1000	3000	6000	56	50	8
	3500	6400	60	53	
	4000	6700	64	57	
	4500	7100	67	60	
	5000	7400	71	64	
	5500	8200	77	69	
6000	8500	81	72	11	

# escalator layout and specification

## GRACES III-30° (H ≤ 6m)



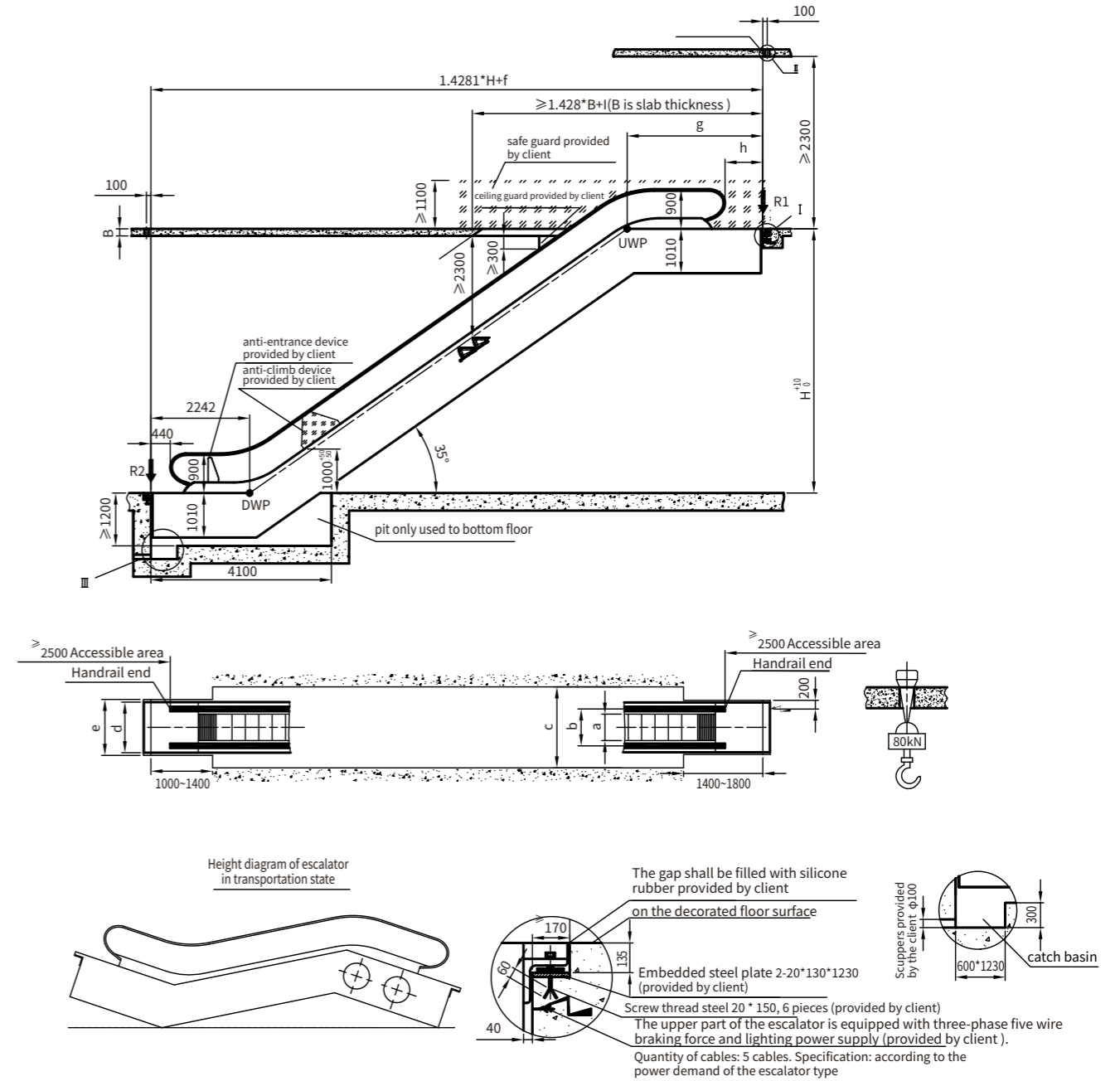
Company: mm

	600	800	1000
a	600	800	1000
b	837	1037	1237
c	≥1840	≥2040	≥2240
d	1150	1350	1550
e	≥1270	≥1470	≥1670
f	5182	4765	4765
g	2984	2567	2567
h	857	440	440
i	7168	6751	6751

Note: 1. R1 and R2 respectively represent the supporting force of single escalator at R1 and R2 supporting positions (kN)  
 2. Number of step horizontal operation: 2  
 3. Handrail: safety tempered glass. Height of handrail: 900mm  
 4. The contents and data shown in the above figure are only for model selection, and cannot represent all the specifications of IFE. If you have specific needs, please contact the local sales representative of IFE Elevator to obtain the latest detailed drawing information.

step width (mm)	travel height (mm)	single escalator weight (kg)	R1 (kN)	R2 (kN)	motor power (kW)
600	3000	5700	46	41	5.5
	3500	6000	49	44	
	4000	6400	52	47	
	4500	6800	56	50	8
	5000	7100	59	53	
	5500	7500	62	56	
800	3000	5900	52	47	5.5
	3500	6300	56	50	
	4000	6700	60	54	
	4500	7100	64	57	8
	5000	7400	68	60	
	5500	7800	74	66	
1000	3000	6300	59	53	5.5
	3500	6700	64	57	
	4000	7100	68	61	
	4500	7500	73	65	8
	5000	8300	79	71	
	5500	8700	84	75	
6000	9200	88	79	11	

## GRACES III-35° (H ≤ 6m)



Company: mm

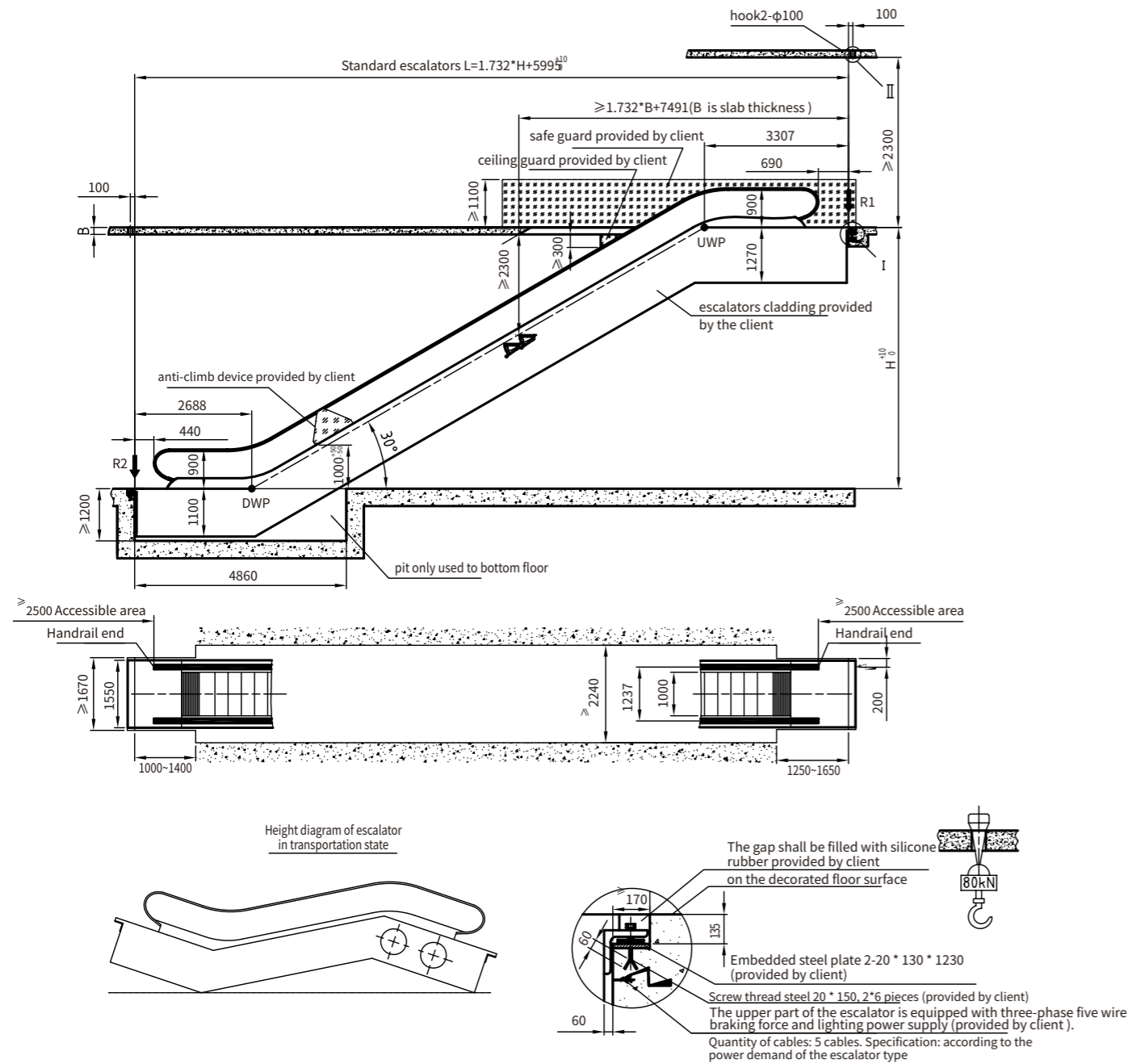
	600	800	1000
a	600	800	1000
b	837	1037	1237
c	≥1840	≥2040	≥2240
d	1150	1350	1550
e	≥1270	≥1470	≥1670
f	5322	4905	4905
g	3080	2663	2663
h	857	440	440
i	6565	6148	6148

Note: 1. R1 and R2 respectively represent the supporting force of single escalator at R1 and R2 supporting positions (kN)  
 2. Number of step horizontal operation: 2  
 3. Handrail: safety tempered glass. Height of handrail: 900mm  
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step width (mm)	travel height (mm)	single escalator weight (kg)	R1 (kN)	R2 (kN)	motor power (kW)
600	3000	5400	43	39	5.5
	3500	5700	46	41	
	4000	6000	49	44	
	4500	6400	52	46	8
	5000	6700	54	49	
	5500	7000	57	51	
800	3000	5600	49	44	5.5
	3500	6000	52	47	
	4000	6300	56	50	
	4500	6600	59	53	8
	5000	7000	62	56	
	5500	7300	65	59	
1000	3000	6000	56	50	5.5
	3500	6400	60	53	
	4000	6700	64	57	
	4500	7100	67	60	8
	5000	7400	71	64	
	5500	8200	77	69	
6000	8500	81	72	11	

# escalator layout and specification

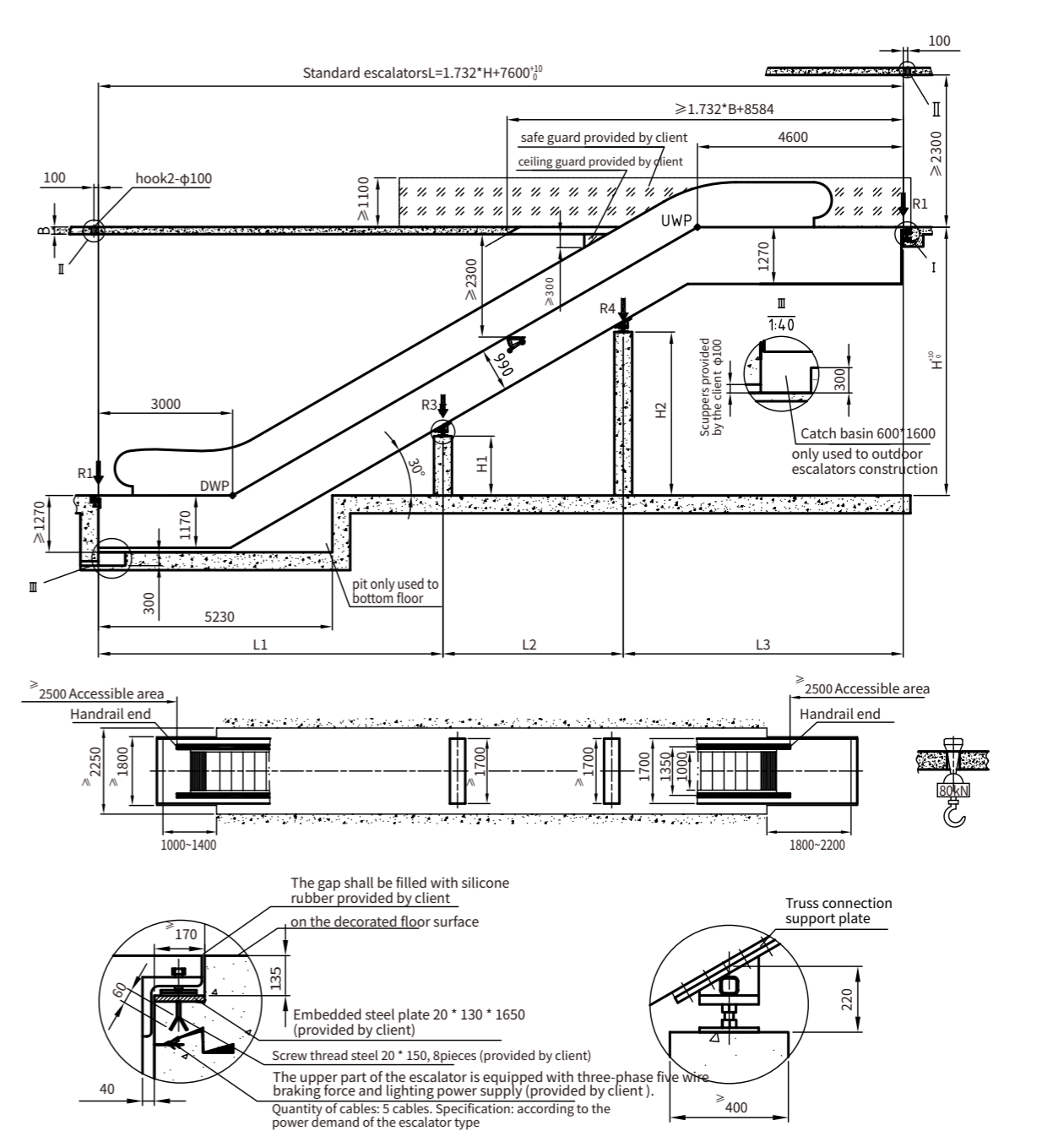
## GRACES LD-30° (H ≤ 5m)



step width (mm)	travel height (mm)	single escalator weight (kg)	R1 (kN)	R2 (kN)	motor power (kw)
1000	3000	6300	76	61	8
	3500	6700	80	65	
	4000	7100	84	69	11
	4500	7500	88	73	
	5000	8300	93	78	

Note: 1. R1 and R2 respectively represent the supporting force of single escalator at R1 and R2 supporting positions (kN)  
 2. Number of step horizontal operation: 2  
 3. Handrail: safety tempered glass. Height of handrail: ≥900mm  
 4. The contents and data shown in the above figure are only for model selection, and cannot represent all the specifications of IFE. If you have specific needs, please contact the local sales representative of IFE Elevator to obtain the latest detailed drawing information.

## GRACES HD-30° (H ≤ 12m)



step width (mm)	travel height (mm)	R1 (kN)	R2 (kN)	R3 (kN)	R3 (kN)	H1 (mm)	H2 (mm)	L1 (mm)	L2 (mm)	L3 (mm)
1000	2000 ≤ H ≤ 4500	L1 * q1 + 17	L1 * q1 + 10					L		
	4500 < H ≤ 6000	L1 * q1 + 17	L1 * q1 + 10					L		
	6000 < H ≤ 8500	L2 * q1 + 17	L1 * q1 + 10	(L1 + L2) * q1 + 15		H/2-926	H/2-926	L/2	L/2	
	8500 < H ≤ 12000	L3 * q1 + 17	L1 * q1 + 10	(L1 + L2) * q1 + 15	(L2 + L3) * q2 + 15	H/3-1658	H/3-1658	L/3	L/3	L/3

Note: 1. R1, R2 and R3 R4 respectively represent the supporting force of single escalator at R1, R2, R3 and R4 supporting positions (kN)  
 2. Constant  $q1=0.0052$   $q2=0.0053$   
 3. Number of step horizontal operation: 3  
 4. Handrail: stainless steel. Handrail height: ≥900mm  
 5. The contents and data shown in the above figure are only for model selection, and cannot represent all the specifications of the company. If you have specific needs, please contact the local sales representative of IFE Elevator to obtain the latest detailed drawing information.

