



**SX** SERIES

Hitachi Moving Sidewalk

Caring for you, and making you feel comfortable.  
**HUMAN FRIENDLY**

What we are aiming is to fill a building with safe and comfortable products and services, and to make a town even more pleasant for all the people who live, work and visit there. Always caring for you. Always getting close to you. HUMAN FRIENDLY is the R&D concept conveying our thoughts.

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RE-C004 0120

Caring for you, and making you feel comfortable.  
**HUMAN FRIENDLY**



Hitachi SX series moving sidewalk materialize to its design of Safe , Reliability , Comfort and Durability, and can provide better product solutions for long-span passenger transport.



**Hitachi SXH horizontal moving sidewalk**

It is suitable for transportation with large traffic volume in airport and subway, which speed up the urban traffic.



**Hitachi SXS inclined moving sidewalk**

It can provide convenient transportation for supermarkets, shopping mall, etc.

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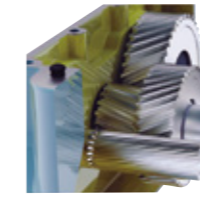
05 / Flexibility and Comfort

07 / Diversified Design

\*The picture shows that handcars are suitable for the moving sidewalk.

# Energy-Efficient

Hitachi adopts high-quality and efficient drive machine configuration to maximize customer utilization value and save operating costs.



## Efficient transmission Standard

The advantage of helical gear transmission is large coincidence degree and instantaneous contact length.



## Low resistance motion Standard

The metal roller is used to reduce the noise and heat level, and prolong the service life of the handrail.

\* The picture is N type handrail frame.

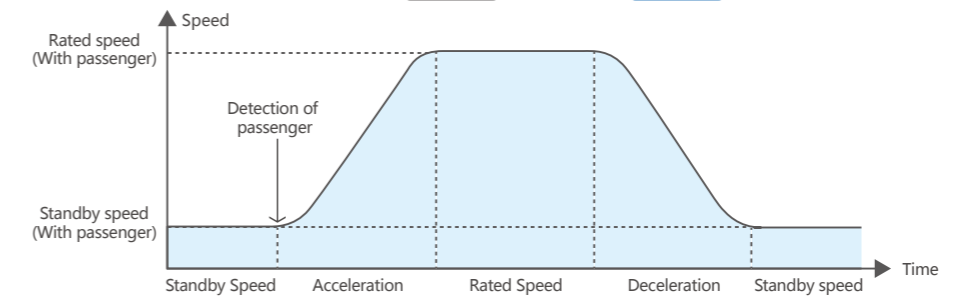


## High integration system Standard

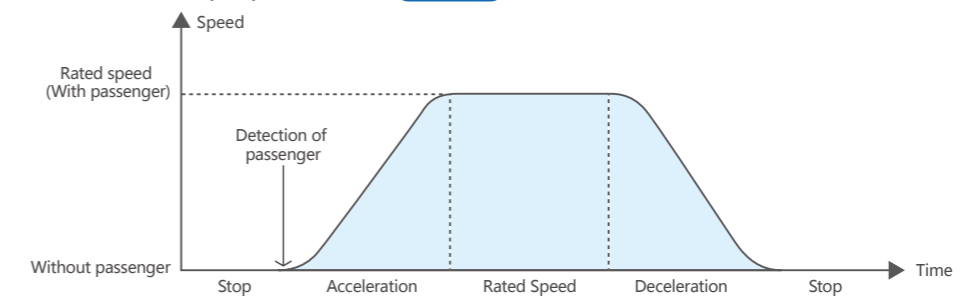
SX series moving sidewalk utilizes various of operating modes, it could effectively save energy for customers and improve energy efficiency of the building.

### • Energy saving mode

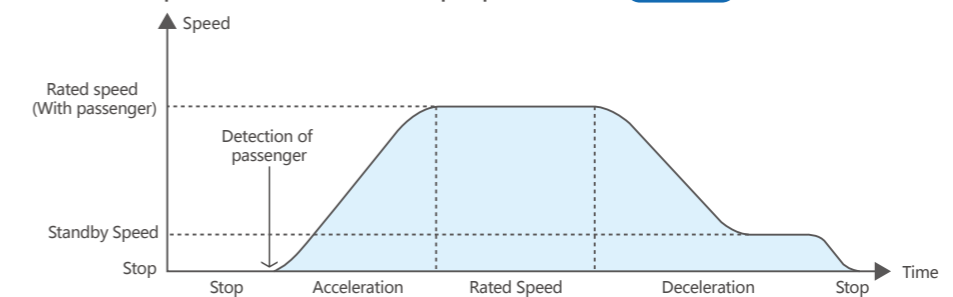
#### Auto dual speed operation Standard in SXH Optional in SXS



#### Auto start-stop operation Optional

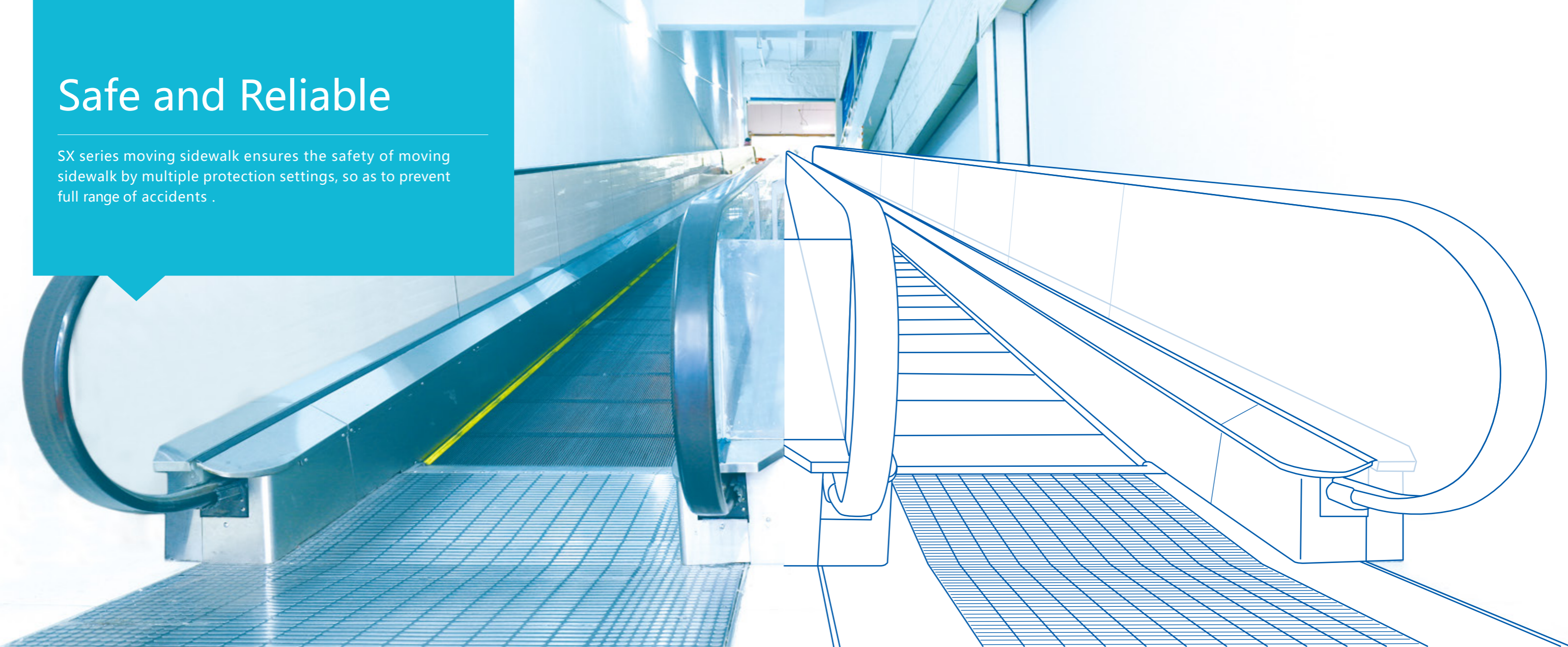


#### Auto dual speed + Auto start-stop operation Optional



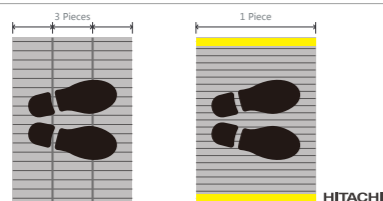
# Safe and Reliable

SX series moving sidewalk ensures the safety of moving sidewalk by multiple protection settings, so as to prevent full range of accidents .



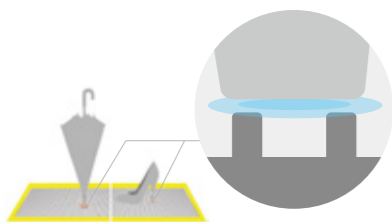
## All aspect protection design Standard

The moving sidewalk is equipped with more than 30 safety switches and designs to ensure the safety of passengers at all times.



### • More than 400mm width pallet

More than 400mm width pallet to ensure that passenger stands on the single pallet.



### • 8.4mm tooth pitch of pallet

The safe tooth pitch of pallet cleat is 8.4mm , effectively prevent the high-heeled shoes and umbrellas from being entrapped into its teeth.

## Leading safety technology solutions Standard

SX series have a number of leading technology solutions to protect passengers' safety not only inside and outside , but also hardware to software.

### • Electronic safety technology solutions

SX series moving sidewalk is adopted high-performance control panel , integrated with inverter and logic control technology to protect the passenger.

### • High Reliability on electric safety protection

Although EN115 require safety integrity level 2 for overspeed and reverse , Hitachi applies SIL3\*1 for more reliability.

\*1 SIL : Safety Integrity Level  
Index to define reliability of machine/system

| Reliability | SIL | ( PFH )                          |
|-------------|-----|----------------------------------|
| High        | 4   | $10^{-9} < \text{PHF} < 10^{-8}$ |
|             | 3   | $10^{-8} < \text{PHF} < 10^{-7}$ |
|             | 2   | $10^{-7} < \text{PHF} < 10^{-6}$ |
|             | 1   | $10^{-6} < \text{PHF} < 10^{-5}$ |

PHF : Probability of a dangerous failure per hour

### • Anti-reversal ( Inclined moving sidewalk only )

In order to ensure passenger safety , SX series moving sidewalk could check the operating status of main Machine and Step which helps to improve the redundancy detection , avoid overspeed and reversal situation.

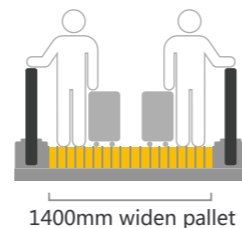
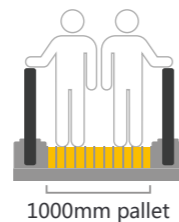
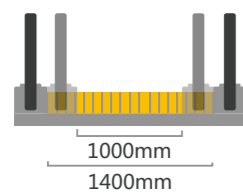
# Flexibility and Comfort

Hitachi SX series moving sidewalk with humanized design which can provide passengers flexible and comfortable moving experience.



## 1400mm widen pallet design Standard

SXH moving sidewalk could be adopted 1400mm widen pallet to provide more spacious space for passengers to move horizontally, and provide effective solutions for fast urban transportation.



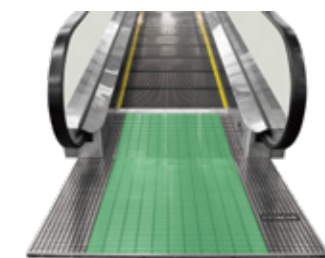
## Streamlined handrail design Standard

Provide more comfortable grip structure, to improve passenger safety.



## Approach Lane Standard

Highlighted guide area is adopted patterns and shades to guide passengers to enter and exit the moving sidewalk safely.

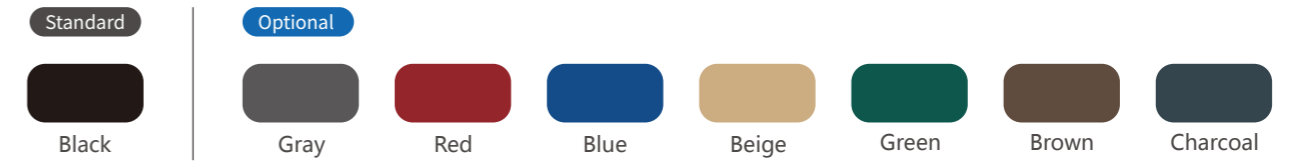


# Diversified Design

Moving sidewalk are important features for building passenger traffic. The decorative configuration of moving sidewalk will affect the overall space architecture in the buildings. As for the upgrade of products, Hitachi promotes the diversified design, to adapt to the different decoration styles of shopping malls and buildings.

## Handrail colors

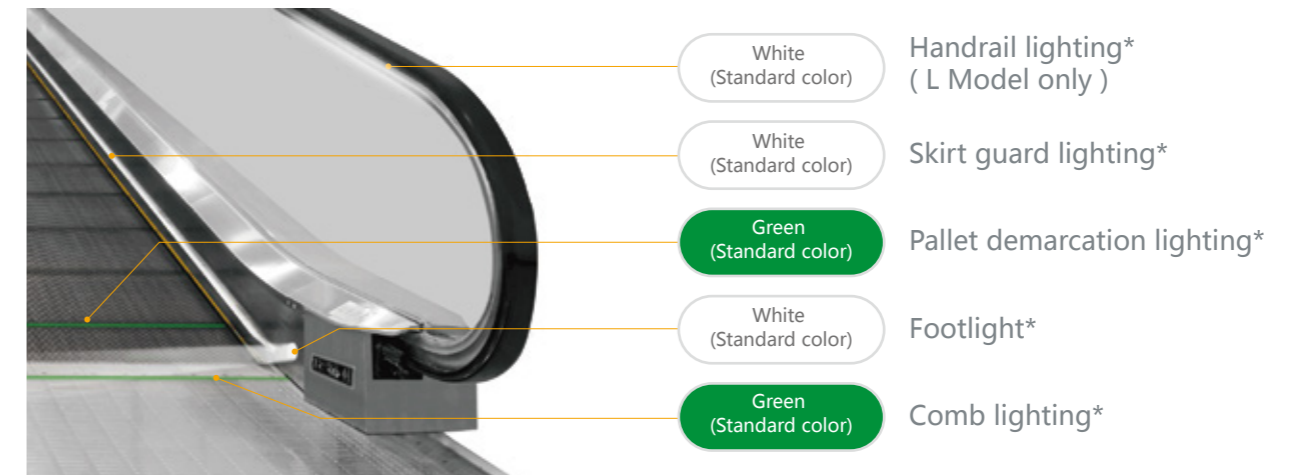
Adapt to different situations with handrail colors



Note: Printed color and actual color may differ slightly

## Lighting

Optional



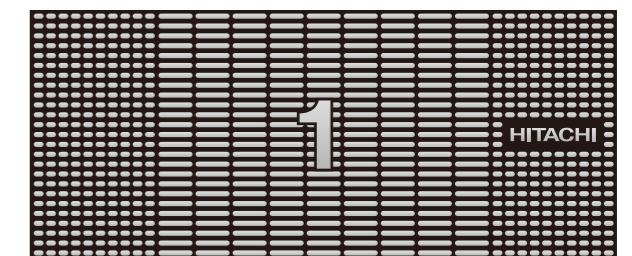
\*LED color selection: white, green, red, blue and light-yellow

## Landing plate

Stainless, with black painting



Standard



Optional

# Standard Specification

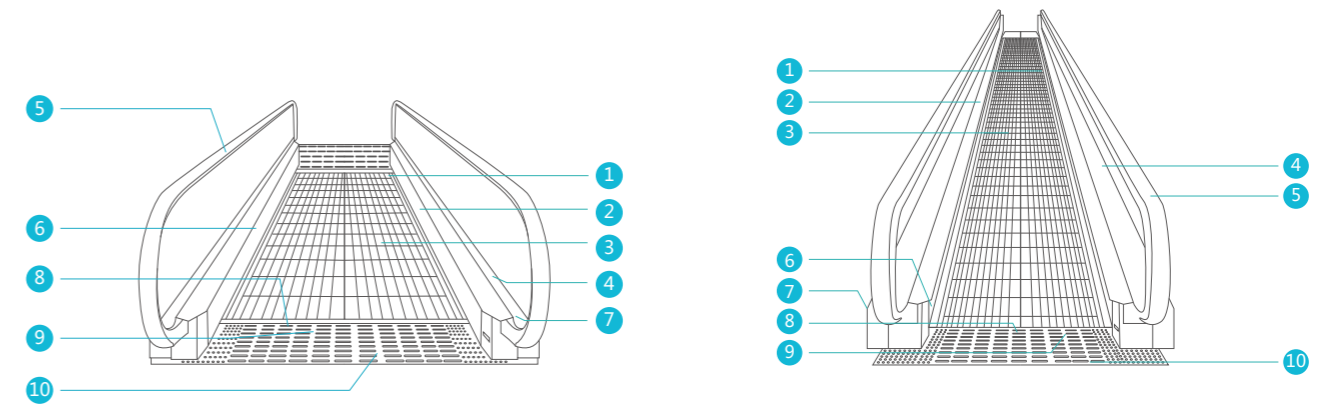
| Type                       | SXS  | SXH            |
|----------------------------|--|----------------|
| Angle of inclination       | 12°(Inclination)   | 0°(Horizontal) |
| Nominal width(mm)          | 1200   | 1600/1200      |
| Pallet width(mm)           | 1004   | 1402/1004      |
| Rated speed(m/s)           | 0.5  | 0.5 , 0.65     |
| Maximum capacity(Person/h) | 6000   | 6000 , 7300    |
| Power supply               | 50/60Hz,AC 3-phase 220/230/380/400/415/440/460/480V, Single-phase 110/220/230/240V |                |
| Motor                      | Three-phase AC induction motor   |                |
| Operation method           | Microcomputer control  |                |

|                          |          |  | Inclined moving sidewalk  | Horizontal moving sidewalk              |
|--------------------------|----------|--|---|---|
|                          |          |  | 1200SXS-EN/L/P Type(12°)  | 1600 / 1200SXH-EN/L/P ( 0°,20m<L<100m ) |
| Balustrade               | Standard | Interior panel                           | Transparent tempered glass  |   |
|                          |          | Handrail                                 | Urethane (Standard Black, Others are option)  |   |
|                          |          | Skirt guard                              | Hairline stainless steel  |   |
|                          |          | Inner and outer deck                     | Hairline stainless steel  |   |
| Landing plate            | Standard | Comb                                     | Aluminum alloy  |   |
|                          |          | Comb plate                               | Stainless steel   |   |
|                          |          | Landing plate                            | Stainless steel with HITACHI logo   |   |
| Pallet                   | Standard | Pallet                                   | Stainless steel   |   |
|                          |          | Demarcation line                         | Reinforced synthetic resin around 2 edges (Fluorescent Yellow)  |   |
| Safety device            | Standard | Emergency device                         | Emergency stop, Additional emergency stop   |   |
|                          |          | Protection against electrostatic loading | Handrail electrostatic protection device, Pallet electrostatic protection device  |   |
|                          |          | Operating safety                         | Over-speed, under-speed and reversal safety protection, Handrail running speed abnormality detection(HSD)   |   |
|                          |          | Safety device                            | Comb plate safety device(CMS), Handrail inlet safety device(TIS), Step chain safety device(TCS), Driving chain safety device(DCS), Step sinking safety device(STS), Missing step protective device(MSD), Landing plate close abnormality detection(MIS), Overload, out of phase and phase reversal protection, Fault detection on important components of control panel, Magnetic brake safety device(MGS), Auxiliary brake detective device(ABS)(H>6m)*1 |   |
| Functional configuration | Option   | —  | Intermediate emergency stop device*2, Skirt guard safety device(SGS), Handrail breaking safety device(HRS), Skirt guard safety brush, Auxiliary brake detective device(ABS)(H≤6m)*1   |   |
|                          |          | —  | Fault alarm, Automatic lubrication  |   |
|                          |          | Energy-saving                            | Auto dual speed*3, Auto dual speed+ auto start stop   |   |
|                          |          | Indicator                                | Fault display at control panel, Fault display at skirt guard, Direction indicator, Automatic Broadcast, Dry contact interface, Communication Interface:RS485,   |   |
| Functional configuration | Option   | EMC                                      | EMC function  |   |
|                          |          | Lighting                                 | Footlight, Demarcation lighting, Comb light, Skirt guard lighting, Handrail lighting  |   |

Note: \*1. Only for inclined moving sidewalk.

\*2. When distance between two emergency stop switch is greater than 40m, intermediate emergency stop should be standard device.

\*3. SXH Auto dual speed is standard.



- 1 Demarcation line    2 Inner deck    3 Pallet    4 Balustrade    5 Handrail
- 6 Skirt guard    7 Outer deck    8 Comb    9 Comb plate    10 Landing plate

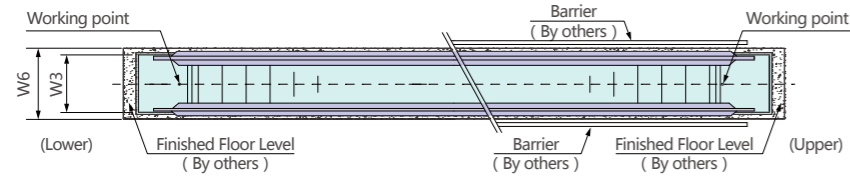
## Electric data ( Unit )

| Power Supply Source from Building  | MSW Type | Rise or Length ( mm ) | Motor Capacity ( kW ) | Control Panel Circuit Breaker Size ( A ) | Required Building Side Circuit Breaker |       | Required Building Side Transformer ( kVA ) | Minimum Section Area for GND ( earthing ) Wire ( sqmm ) |    |
|------------------------------------|----------|-----------------------|-----------------------|--|--|-------|--|---|----|
|                                    |          |                       |                       |  | Current ( A )                          | Curve |  |   |    |
| 220V,230V<br>50/60Hz               | SXS      | 1200 type             | 2850≤H≤4000           | 5.5                                      | 40                                     | ≥40   | D  | 12.5  | 4  |
|                                    |          |                       | 4000<H≤5000           | 7.5                                      | 50                                     | ≥50   |  | 16  | 8  |
|                                    |          |                       | 5000<H≤8000           | 11                                       | 63                                     | ≥63   |  | 18  | 10 |
| 380-415V,440V,460V,480V<br>50/60Hz | SXS      | 1200 type             | 2850≤H≤4000           | 5.5                                      | 32                                     | ≥32   | D  | 12.5  | 4  |
|                                    |          |                       | 4000<H≤5000           | 7.5                                      | 32                                     | ≥32   |  | 16  | 6  |
|                                    |          |                       | 5000<H≤8000           | 11                                       | 40                                     | ≥40   |  | 18  | 8  |
| 220V,230V<br>50/60Hz               | SXH      | 1600 type             | 20000≤L0≤70000        | 5.5                                      | 40                                     | ≥40   | D  | 12.5  | 4  |
|                                    |          |                       | 70000<L0≤100000       | 7.5                                      | 50                                     | ≥50   |  | 16  | 8  |
|                                    |          | 1200 type             | 20000≤L0≤85000        | 5.5                                      | 40                                     | ≥40   |  | 12.5  | 4  |
| 380-415V,440V,460V,480V<br>50/60Hz | SXH      | 1600 type             | 20000≤L0≤70000        | 5.5                                      | 32                                     | ≥32   | D  | 12.5  | 4  |
|                                    |          |                       | 70000<L0≤100000       | 7.5                                      | 32                                     | ≥32   |  | 16  | 6  |
|                                    |          | 1200 type             | 20000≤L0≤85000        | 5.5                                      | 32                                     | ≥32   |  | 12.5  | 4  |
|                                    |          |                       | 85000<L0≤100000       | 7.5                                      | 32                                     | ≥32   |  | 16  | 6  |

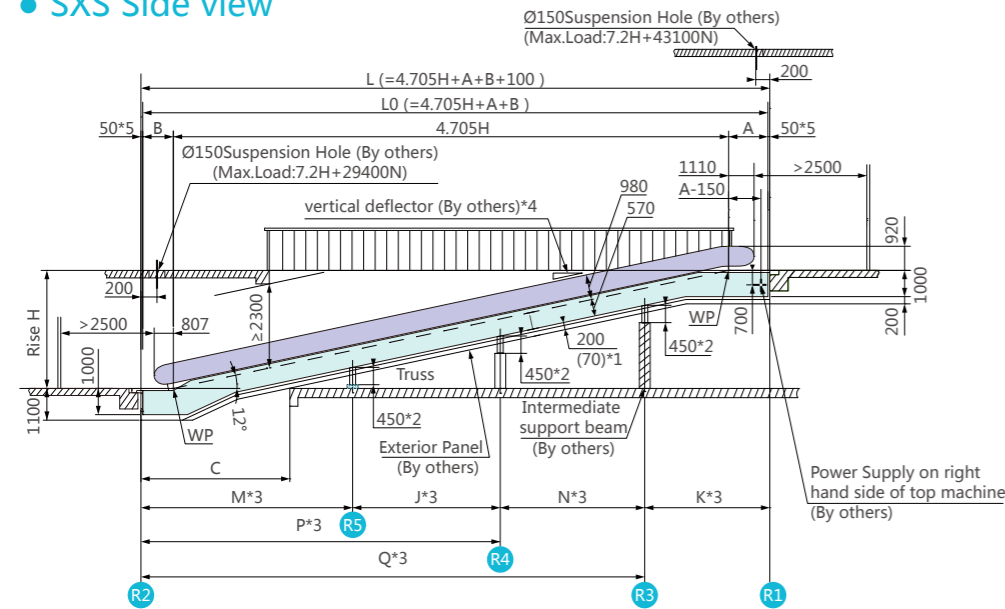
# Pit dimension ( SXS inclined moving sidewalk )

( Unit:mm )

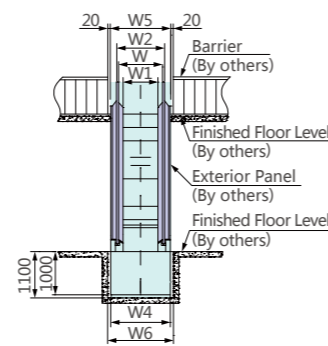
## • SXS Plan view



## • SXS Side view



## • SXS front view



### Dimension A (mm)

| Main power supply |                     | A                                  |                 |
|-------------------|---------------------|------------------------------------|-----------------|
|                   |                     | Standard or EN115-1:2008 + A1:2010 |                 |
| Frequency (Hz)    | Voltage (V)         | 1200Type                           |                 |
|                   |                     | 2850 < H ≤ 5000                    | 5000 < H ≤ 8000 |
| 50/60Hz           | 380-415             | 1500                               | 1700            |
|                   | 220,230,440,460,480 | 1900                               | 2100            |

### Dimension B , C (mm)

| Item     | Content         |                 |
|----------|-----------------|-----------------|
| Rise(mm) | 2850 < H ≤ 5000 | 5000 < H ≤ 8000 |
| B        | 1165            | 1265            |
| C        | 5100            | 5200            |

### Overall dimension (width) (mm)

| Item                                  | 1200Type |
|---------------------------------------|----------|
| W ( Balustrade )                      | 1226     |
| W <sub>1</sub> ( Step )               | 1004     |
| W <sub>2</sub> ( Handrail )           | 1236     |
| W <sub>3</sub> ( Landing plate )      | 1360     |
| W <sub>4</sub> ( Frame )              | 1510     |
| W <sub>5</sub> ( Total width of MSW ) | 1550     |
| W <sub>6</sub> ( Min.pit/opening )    | 1590     |

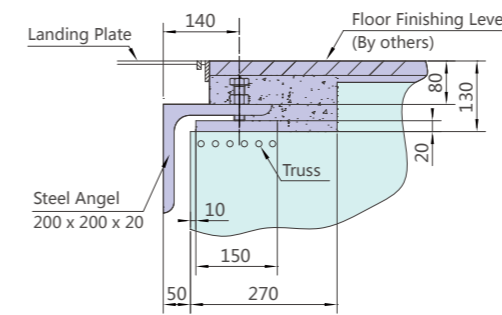
# Support requirements ( SXS inclined moving sidewalk )

## • Reaction Load (N)

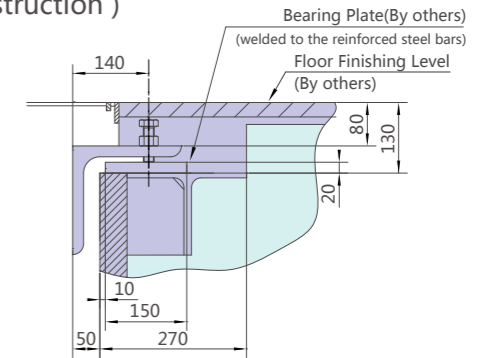
| Length L0(mm)      | Number of supporting beam | R1(N)       | R2(N)       | R3(N)         | R4(N)    | R5(N)    |
|--------------------|---------------------------|-------------|-------------|---------------|----------|----------|
| L0 ≤ 12000         | 2                         | 23.5H+35000 | 23.5H+25000 | —             | —        | —        |
| 12000 < L0 ≤ 24000 | 3                         | 5.5K+20000  | 5.2Q+10000  | 5.4L          | —        | —        |
| 24000 < L0 ≤ 36000 | 4                         | 5.5K+20000  | 5.2P+10000  | 5.4(K+N)      | 5.2(P+N) | —        |
|                    |                           | 5.5K+25000  |             | 5.4(K+N)+3000 |          |          |
| 36000 < L0 ≤ 48000 | 5                         | 5.5K+25000  | 5.2M+10000  | 5.4(K+N)+3000 | 5.2(N+J) | 5.2(J+M) |

## • Details of supports on both ends (mm)

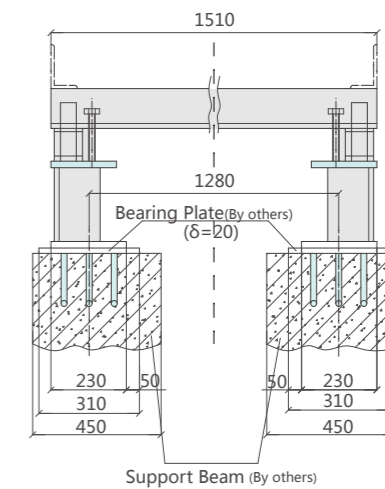
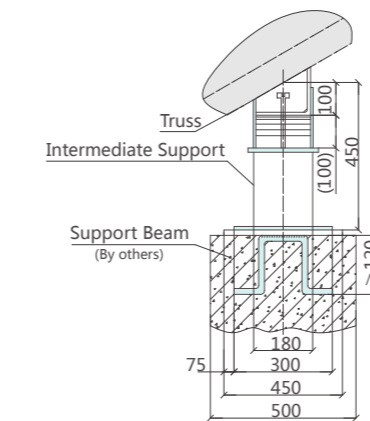
### • Frame supporting portion



### • Frame supporting portion ( Construction )



## • Intermediate frame supporting beam portion (mm)



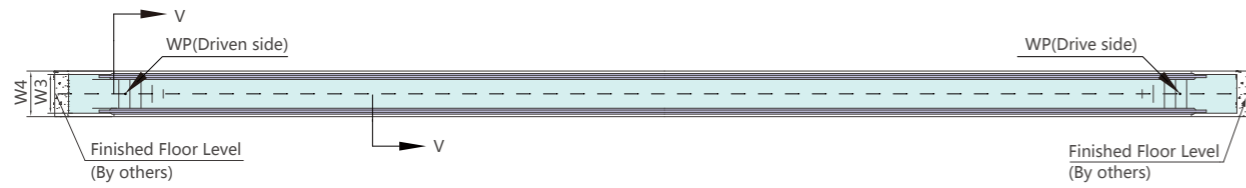
### Note :

- \*1. If no bottom lights or pipelines are installed between the truss and the exterior panel, this dimension is 70mm.
- \*2. When the height of the intermediate support exceeds 450mm, the customer needs to provide supporting beam.
- \*3. K , M , N , J , P , Q ≤ 12000mm
- \*4. When the distance between the center line of handrail and the moving sidewalk or any obstacle in the building is less than 500mm, vertical deflector without any sharp edges shall be installed at the intersection.
- \*5. Upon planning , the gaps ( clearancers ) between moving sidewalk and building at both upper and lower part must be designed within the range of 40~90mm including the tolerance at the building side.

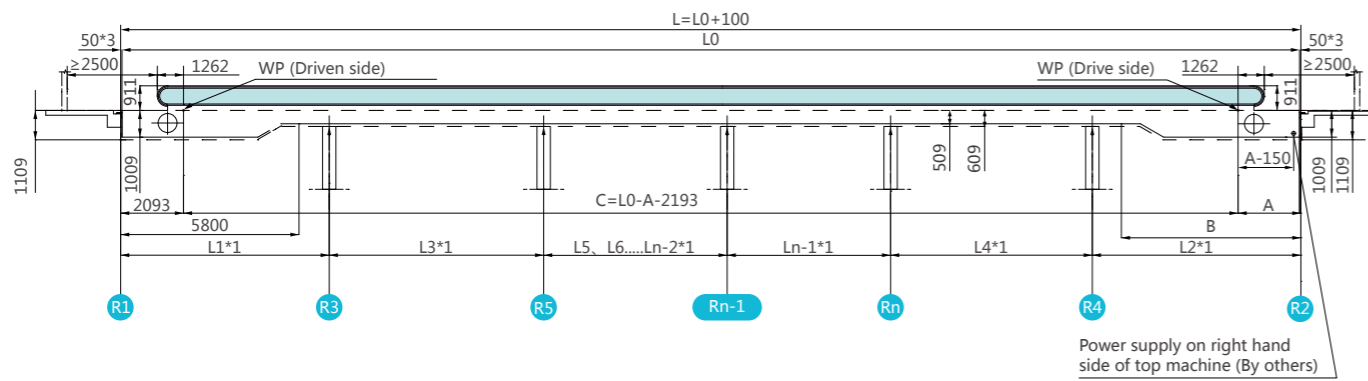


# Pit dimension ( SXH horizontal moving sidewalk ) ( Unit:mm )

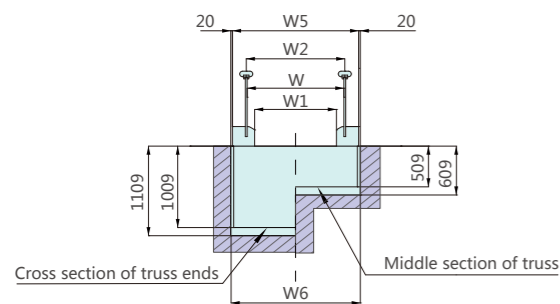
## • SXH Plan view



## • SXH Side view



## • V-V section view



Overall dimension (width) (mm)

| Item                                  | 1600Type | 1200Type |
|---------------------------------------|----------|----------|
| W ( Balustrade )                      | 1626     | 1226     |
| W <sub>1</sub> ( Step )               | 1402     | 1004     |
| W <sub>2</sub> ( Handrail )           | 1636     | 1236     |
| W <sub>3</sub> ( Landing plate )      | 1760     | 1360     |
| W <sub>4</sub> ( Frame )              | 1910     | 1510     |
| W <sub>5</sub> ( Total width of MSW ) | 1950     | 1550     |
| W <sub>6</sub> ( Min.pit/opening )    | 1990     | 1590     |

## Dimension A , B ( mm )

| Main power supply |                     | Standard |      | EN115-1:2008+A1:2010 |      |          |      |          |      |
|-------------------|---------------------|----------|------|----------------------|------|----------|------|----------|------|
| Frequency(Hz)     | Voltage(V)          | 1600Type |      | 1200Type             |      | 1600Type |      | 1200Type |      |
|                   |                     | A        | B    | A                    | B    | A        | B    | A        | B    |
| 50/60Hz           | 380-415             | 2093     | 5800 | 2093                 | 5800 | 2093     | 5800 | 2193     | 5900 |
|                   | 220,230,440,460,480 | 2093     | 5800 | 2393                 | 6100 | 2093     | 5800 | 2493     | 6200 |

Note : \*1, n is number of intermediate support

\*2, The vertical height between the building obstacle and the pallet is  $\geq 2300$

\*3, Upon planning , the gaps ( clearancers ) between moving sidewalk and building at both upper and lower part must be designed within the range of 40~90mm including the tolerance at the building side.

# Support requirements ( SXH horizontal moving sidewalk )

## • Reaction Load (N)

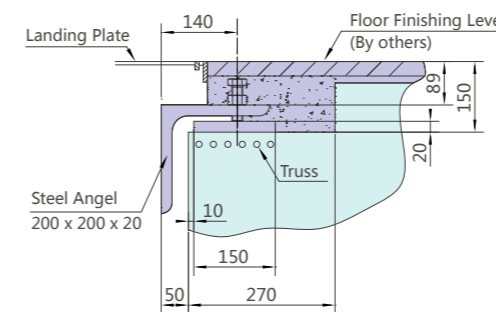
| Type     | Horizontal length L0(mm)    | Number of supporting beam | R1(N)          | R2(N)           | R3(N)        | R4(N)               | R5(N)          | ... | Rn-1(N)          | Rn(N)          |
|----------|-----------------------------|---------------------------|----------------|-----------------|--------------|---------------------|----------------|-----|------------------|----------------|
| 1600Type | $20000 \leq L0 \leq 100000$ | $1 + L/10000^{*2}$        | $6.6L1 + 7000$ | $6.6L2 + 20400$ | $6.1(L1+L3)$ | $6.1(L2+L4) + 3000$ | $6(L3+Ln-2)$   | ... | $6(Ln-2+Ln-1)$   | $6(L4+Ln-1)$   |
| 1200Type | $20000 \leq L0 \leq 100000$ | $1 + L/10000^{*2}$        | $5.2L1 + 5000$ | $5.2L2 + 17000$ | $4.7(L1+L3)$ | $4.7(L2+L4) + 3000$ | $4.6(L3+Ln-2)$ | ... | $4.6(Ln-2+Ln-1)$ | $4.6(L4+Ln-1)$ |

Note: \*1. L1~Ln distances  $\leq 10000$ mm.

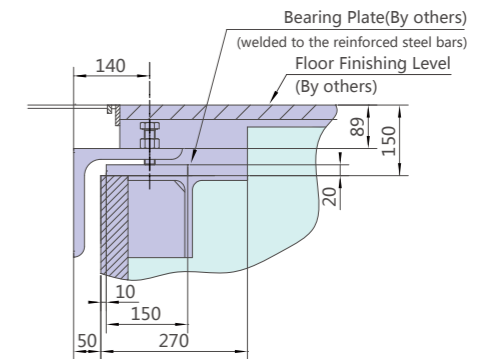
\*2. Need to roundup.

## • Details of supports on both ends ( mm )

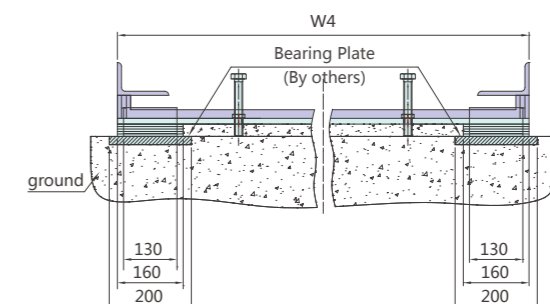
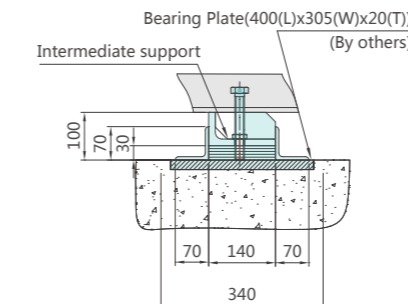
### • Frame supporting portion



### • Frame supporting portion ( Construction )



## • Intermediate frame supporting beam portion ( mm )



# Works Done by Others Moving Sidewalk

## • Construction-Related Work (Supply and Install)

| Item | Work Description   |
|------|--|
| 1    | Opening of holes in floor slabs for installation use and recovery work.  |
| 2    | Installation of supporting beams for installation use.   |
| 3    | Opening of suspension holes in floor slabs or sleeve holes for carrying the moving sidewalk into place and performing recovery work.   |
| 4    | Lowest floor and moving sidewalk bottom pits and waterproofing work (if there is any resident room below the lower machine room, the pit work will be of refractory construction)              |
| 5    | Finishing work for floors and ceilings around the moving sidewalk after completion of escalator/moving sidewalk installation.  |
| 6    | Installation finishing works to barrier and walls around the moving sidewalk.  |
| 7    | External panels on moving sidewalk frame(truss).   |
| 8    | Installation of triangular guard plates in places where the moving sidewalk and building ceiling or one moving sidewalk and another intersects.  |
| 9    | If the space between moving sidewalk is a stairwell, installation of intermediate down walls, ceilings, handrails and advance prevention partitions.   |
| 10   | Joint work in places where the moving sidewalk and the buildings ceiling border.   |
| 11   | Installation of fall protection nets, etc, if the space between the moving sidewalk and the building's floor is stairwell or the space between one moving sidewalk and another is a stairwell. |
| 12   | Preparation of an entrance to carry in the escalator/moving sidewalk and perform recovery work if the moving sidewalk is to be installed in an existing building.                              |
| 13   | Protection work around the moving sidewalk if the moving sidewalk is to be installed in an existing building.  |
| 14   | Opening of a hole in the wall if the operation panel of the moving sidewalk is to be installed in the building's wall.   |

## • Electrical Equipment-Related Work (Supply and Install)

| Item | Work Description  |
|------|---|
| 15   | Main power supply for the drive motor: lead-in up to the upper control board of the moving sidewalk.  |
| 16   | Power supply for inspection and maintenance(including bottom lighting): lead-in up to the upper control board of the moving sidewalk.                         |
| 17   | The power cable provided to the upper machine room should have a free length of at least 2m.  |
| 18   | Grounding wire: lead-in up to the upper power receiving panel of the moving sidewalk.   |
| 19   | Piping and wiring for the supervisory panel: lead-in from the installation area of the supervisory panel to the power receiving panel of the moving sidewalk. |
| 20   | Piping and wiring work if the moving sidewalk's operation panel is separately installed( built into the wall, etc).   |
| 21   | Selector switch and its installation for moving sidewalk bottom lighting.   |
| 22   | Installation of emergency lighting.   |
| 23   | Installation of sprinklers, broadcasting speakers, guide lights, etc.   |

Note : Management measures

The safety must be ensured before allowing passengers to use wheelchairs, baby carriages and shopping carts on moving sidewalk.

No other device shall be used on inclined moving sidewalk except shopping carts with safety design.

## • Safety protection device

| NO. | Content  |
|-----|--|
| 1   | If there is risk of falling, climb-proof devices should be installed on the outer deck of escalators and moving sidewalk.  |
| 2   | If building obstacles can cause personal injury, especially between escalators or moving sidewalk at the intersection with floor slabs, Vertical protective baffles without sharp edges should be installed above the handrail belts.  |
| 3   | When the distance between the building and the center line of the handrail is more than 300 mm, anti-skid devices should be installed on the handrail cover plate.   |
| 4   | When escalator or moving sidewalk are adjacent to walls and the width of the outer deck exceeds 125 mm, or when the escalators or moving sidewalk are adjacent and parallel, the width of the common outer cover plate exceeds 125 mm, the upper and lower ends shall be equipped with blocking devices.   |
| 5   | Appropriate precautions should be taken if passenger may come into contact with the outer edge of the handrail at entry and exit and cause danger, such as falling from the handrail. In dangerous areas, the fixed guardrail formed by the building structure is increased to at least 100 mm above the handrail, and is located between 80 mm and 120 mm at the outer edge of the handrail |