Schindler Escalators in Public Transportation
When moving mass means individual comfort
When a multitude means each one counts
Schindler heavy-duty escalators

The world’s number one supplier of heavy-duty escalators
Schindler is the world’s major supplier of escalators for public transportation solutions. The most demanding underground and railway systems in cities such as New York, London, New Delhi, Hong Kong, Beijing, Guangzhou, Tokyo and more rely on the reliability and durability of Schindler escalator solutions.

A complete product range for all requirements
Central metro stations, main railway stations, light rail or small stations all require different product solutions. Schindler provides the expertise and the full product range to cover these requirements with high-performance and efficient product application solutions.

Reliability and safety
With a more than 140-year history, Schindler has extensive experience in the design, installation and operation of public transportation applications. Careful component design and system engineering guarantee long-lasting component reliability with top safety performance.

Availability and durability for decades of operation
The appropriate components are selected based on the customer’s specific duty and lifetime requirements. Chains, steps, drives and all other components are designed to provide high availability. They are built to last for many years under heavy-duty operation.
The world’s number one supplier of heavy-duty escalators
Schindler escalators are the first choice for many of the world’s metro and railway systems. The units are designed for heavy-, medium- and light-duty requirements. Every customer need is met with tailored design solutions.
A complete product range for all requirements

Product characteristics need to be balanced carefully to meet customer requirements in terms of performance, lifetime, initial investment and product lifecycle cost. The Schindler 9300AE and Schindler 9700 product lines are customized for the specific customer specification.

**Vertical rise**
3–50 m

**Inclination**
23.2°, 27.3°, 30°

**Component lifetime**
70,000–200,000 hrs

**Inclination**

| Component lifetime | 70,000–200,000 hrs |

**Passenger load**

<table>
<thead>
<tr>
<th>Operation time/year</th>
<th>Passenger load in 3-hr interval</th>
<th>Passenger load acc. to</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4000 h</td>
<td>&lt; 85%*</td>
<td>EN 115</td>
</tr>
<tr>
<td>&lt; 7300 h</td>
<td>&lt; 70%*</td>
<td>GB 16899</td>
</tr>
<tr>
<td>&gt; 7300 h</td>
<td>&lt; 60%*</td>
<td>ANSI</td>
</tr>
</tbody>
</table>

* based on 120kg/step

**Speed**

<table>
<thead>
<tr>
<th>Transition radius</th>
<th>Top</th>
<th>Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low rise, low speed</td>
<td>1.5 m</td>
<td>1.0 m</td>
</tr>
<tr>
<td>Mid rise, mid speed</td>
<td>2.7 m</td>
<td>2.0 m</td>
</tr>
<tr>
<td>High rise, high speed</td>
<td>4.0 m</td>
<td>3.0 m</td>
</tr>
</tbody>
</table>

**Transition radius**

**Horizontal step run**
2, 3, 4, 5 steps

**Balustrade type**

- Vertical
- Inclined
Meeting diverse requirements and applications
Protection and support

Schindler’s high-availability component design and system engineering guarantee long-lasting component reliability and top safety performance. Chains, steps, drives and all other components can consistently protect and support passengers for many years of heavy-duty operation.
Safety first

“Safety first” is the main target in product design as well as in installation and operation. All Schindler products are designed to comply with this objective.

Would you like more information on safety? Please consult the Schindler escalator safety brochure “State of the Art.”
**Safety indicators**

1. Step gap lighting
2. Combplate lighting
3. Direction indicators
4. Emergency stop button*

**Safety components**

1. Gap cover with anti-slide knob
2. Safety brake on drive shaft
3. Service brake*
4. Duplex chain*
5. Drive chain monitor
6. Step chain tension contacts*
7. Guard plates*
8. Counter track*

**Anti-entrapment**

1. Handrail entry protection*
2. Skirt brushes*
3. Step upthrust device*
4. Upthrust contact
5. Step level contact*
6. Complete contacts*
7. Skirt contacts
8. Handrail entry contacts*

**Anti-reversal**

1. Speed monitor*
2. Step monitor*
3. Handrail monitor*
4. Electric anti-reversing device*
5. Phase monitoring relay*

**Additional safety features**

1. Motor protection*
2. Brake lining monitor
3. Fire contact
4. Smoke detector
5. Water level contact
6. Floor cover contact*

**Built-in system safety**

The MICONIC F escalator controller double-checks each safety device in real time. Speed and direction are monitored on the motor shaft 1, step band 2 and handrail 3. By monitoring three separate components, a failure-free anti-reversal check is ensured.

**Note:**
The safety feature list includes optional extras that go beyond the requirements of national safety standards.

* Schindler standard features
Reliability and efficiency

European component and system design for global applications. Schindler’s global setup, supply chain qualification and total quality approach ensure component quality.

- Heavy-duty chains with extended safety factors.
- Hydrolysis-resistant step rollers with a lifetime of over 150,000 hours.
- Energy efficient worm and helical gear solutions.
- Frequency converters for up to three different speeds.
Durability
With a more than 140-year history, Schindler has extensive experience in the design, installation and operation of public transportation applications. Careful component design and system engineering ensure nearly 100% availability and long-lasting component reliability with top safety performance.

Anti-corrosion reinforced truss
The Schindler truss design with open profiles and rust-proof treatment is fully applied on the entire steel structure, providing long-lasting corrosion resistance for up to 40 years. The vibration-isolated end supports eliminate sound transmission to the building.

Break-resistant aluminum compact steps
Steps are the most important safety component. The Schindler monoblock step provides significantly higher break resistance at substantially lower step weight compared to multi-part compound steel steps.

High-strength, low-resistance guide rail system
The Schindler guide rail system features a high-strength structure and large turning radius to reduce vibration and running resistance. Relieving curves are provided in the upper and lower transition curves as standard. The step chain is positioned outside the rollers to release roller stress.

Optimized handrail drive system
Schindler provides reliable handrail drive system for all vertical rise. C-shaped or V-shaped handrails are configured for different types of handrail drive systems. The handrail has a breaking load of up to 25 kN.

Break-resistant Aluminum compact steps

Optimized handrail drive system

Static test center break load
Schindler: 18 kN

Schindler yellow step demarcation (optional):
- Resistant against synthetic oil
- Fire-resistant, Class V0
- Mounted without screws

Schindler compact step:
- Single piece aluminum, superior safety without screw connections
- Anti-corrosion
Schindler escalators are produced in the world’s biggest and most modern factory. The Shanghai plant started up production in 2014 and produces heavy-duty escalators for the whole world. The production record is over 13,000 units in 2016.
Diverse product application solutions

Metro station Enkplatz, U3 in Vienna, Austria
Metro station Università in Naples, Italy

Light rail line 3 in Shanghai, China

Metro station in Torino, Italy

Metro station Národní třída in Prague, Czech Republic
Project support from A to Z

Schindler’s extensive experience in public transportation will help you specify and implement your vertical and inclined passenger transportation solutions. Special expert teams are available to support you with planning and product configuration expertise.

The expert teams will support you in all parts of the product lifecycle, from planning to installation, from operation and maintenance to modernization and product replacement.

The scope of our support includes:
- Planning and design tools; 2D 3D and BIM modelling
- Energy consumption optimization and calculation
- Qualified project management
- Prototype testing
- Efficient installation methods
- Fitter training in factory training centers
- Consistent project-specific maintenance and repair instructions
- Remote monitoring and control solutions
- Global spare parts stock management
Value-added tools

Schindler’s Revit Building Information Modeling (BIM) tool provides 3D object data. The models can be used by architects for their drawings.

Please go to https://www.digipara.com/downloads/free-digipara-elevatorarchitect to download the plugin for your ACAD system.
Metro line M1 in Ankara, Turkey
Tseung Kwan O Line extension, Hong Kong
Metro station in Amsterdam, Netherlands
Maglev station in Shanghai, China

For more project references, go to www.schindler.com
Ingenious planning

Selecting the right mobility solution means analyzing the building requirements and calculating the potential traffic patterns. This is at the core of Schindler’s planning support to ensure efficient mobility and a convenient journey for passengers. Bringing together global know-how for each individual project.

Schindler planning services:
- Expert consultants for traffic and product planning
- Traffic analysis and calculation service
- Specialized engineering centers for customized configurations
- Planning guidelines and tools to expedite shaft planning, building layout and product selection/configuration

Seamless delivery

With a full-range portfolio of elevators, escalators and moving walks, Schindler provides mobility solutions for any building application. Schindler customers can rely on sustainable technology, excellent project management and proven installation methodologies. It’s always the perfect fit.

Technology for all building types and mobility needs:
- Residential and office buildings
- Commercial towers, retail environments
- Hospitals and public buildings
- Heavy-traffic environments
- High-rise buildings
- Cruise liners
Efficient operation
Smooth, hassle-free operation and very high availability are the result of professional maintenance and modernization. Environmental and operational efficiency add value to the investment. Reliability and sustainability – all day, every day.

The maintenance, repair and modernization portfolio:
- Global network of branches and service points
- Skilled and certified technicians and fitters
- Service solutions for all building types and requirements
- Availability and fast delivery of spare parts
- Quickly responding call-center services
- E-monitoring diagnostic tools
- Replacement and step-by-step modernization solutions

Continuous enhancement
Schindler constantly develops new products and features to set new benchmarks and increase efficiency. Technological milestones that provide mobility to the urban society – conveniently, safely and ecologically. Progress needs innovation.

The cutting-edge developments:
- PORT technology – traffic, building communication and access-control management that calculates the swiftest route through the building
- Schindler regenerative PF1 clean drive technology
- Space-saving, weight-optimized designs
- Flexible modernization concepts from full replacements to partial retrofits
- Eco-mode options for elevators, escalators and moving walks
You know where to find us.
We look forward to seeing you.

For additional information and the location of your nearest Schindler branch, please contact:

www.schindler.com