



Schindler

1. Product Name

Schindler 400A® Traction Elevator System

2. Manufacturer

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3. Product Description

Schindler Elevator Corporation manufactures, installs, services and modernizes elevators, escalators and moving walks for commercial and public transit applications worldwide. Schindler is ISO 9001:2000 certified and specializes in latest-technology engineering, rigorously testing their products for safety, comfort, efficiency and reliability. Schindler has offices in over 250 locations in North America and operations in more than 100 countries.

BASIC USE

The Schindler 400A® Traction Elevator System combines exceptional performance with valuable space, time and energy savings. Designed for general-purpose passenger use or hospital and service applications, the Schindler 400A Traction Elevator is specified for low- or mid-rise buildings and can incorporate up to 20 stops and travel up to a maximum of 200' (61 m). The small footprint of the gearless Schindler 400A elevator reduces the amount of vertical and horizontal building space required, and the streamlined hoistway allows for simpler site preparation and faster installation. Compact and environmentally friendly, the 400A consumes 30% less energy than traditional geared models without sacrificing the smooth, quiet operation and reliability for which Schindler products are known. The Schindler 400A is available in machine room-less, machine room side and machine room above configurations.

TYPES

Machine Room-Less (MRL)

A small closet-sized space requiring no roof penetration can replace a conventional machine room. The control space will house the

compact controller cabinet, and can be located on the top floor adjacent to any hoistway-wall. All elevator machinery equipment is located in the hoistway overhead and is accessible from the car top.

Machine Room Side (MRS)

A mini-machine room can be located alongside the hoistway on the top floor to house the controller cabinet and provide access to the governor when necessary. All elevator machinery equipment is located in the hoistway overhead and is accessible from the car top.

Machine Room Above (MRA)

A conventional machine room containing all the elevator machinery equipment with a footprint no bigger than the hoistway itself can be located on the roof directly over the hoistway. Equipment mounting can be accomplished using a traditional structural concrete slab. Rail mounting is also available with some applications.

Configurations

- Suitable for up to 20 stops
- Up to 21 total front and rear openings
- Travel up to 200' (61 m)
- Speeds of 200 and 350 fpm (61 and 107 mpm)
- General-purpose capacities of 2100, 2500, 3000 and 3500 lb (953, 1134, 1361 and 1588 kg)
- Hospital/service capacity of 4500 lb (2041) kg
- Systems available with 1 - 4 elevators
- Features an energy-efficient "Permanent Magnet" gearless machine

For basic application configurations, see Table 1.

COMPONENTS

Standard 400A elevator components include the following:

- Hoistway mechanicals such as guide rails, rail brackets, buffers and machinery supports
- Car structure that supports the cab and safety device
- UL fire-rated entrance assemblies including doors, jambs, sills and hardware
- Counterweight frame with steel filler weights
- Cab with steel shell walls and top ceiling
- Cab with exhaust fan and handrails
- Cab fixtures, including the main car operating panel, pushbuttons, main lighting, emergency lighting, firefighters' services, switches and accessories
- "Permanent magnet" motor, variable frequency AC drive, governor and safety device
- Overload sensors



Schindler 400A Traction Elevator cab with stainless steel front, wall panels and exposed frame ceiling

- Phase protection
- UL, CSA or CUL approved Miconic® GX microprocessor controller, controls, pushbuttons and wiring
- Integral jamb-mounted hall fixtures, to include up and down buttons and fixture cover plates
- QKS16 VF door operator
- Braille and audible signals
- ADA compliant telephone
- Infrared Light Curtain door protection
- Load weighing device
- Locking service panel in car operating panel
- Car lanterns
- Digital car position indicator
- Schindler Remote Monitoring™

Features of specific elevator components are detailed below.

Microprocessor

The 32-bit Miconic GX microprocessor controller uses Local Operating Network (LON) technology as its common communications protocol. LON drives the car and corridor fixtures, offering a full range of functions to accommodate various traffic patterns and requirements. A built-in diagnostic function eliminates the need for special troubleshooting tools.

QKS16 VF Door Operator

The QKS16 VF door operator uses a closed-loop servo-control system to ensure steady door movement and maintain constant closing force. If a door remains open for an extended period,



Machine Room-Less Elevator

a "nudging" feature will trigger it to slowly close while sounding an audible alarm. Adjustments to the door control board can be accomplished easily from inside the car.

Progard L™ Light Curtain

The Progard L™ Light Curtain is a touch-free electronic system that helps protect passengers from closing elevator doors. A transmitter unit on one side of the elevator doorway sends dozens of invisible infrared light beams to a receiver unit on the opposite side. If a passenger or object interrupts the doorway light beam, Progard L will signal the door to reopen.

Fixtures

Operating panels in the main car station and hallway fixtures are ADA compliant and feature pushbutton illumination with long-lasting LED lights. Emergency buttons and switches are provided in accordance with code requirements.

Schindler Remote Monitoring™ (SRM)

SRM continuously monitors and records elevator performance to help pinpoint problems and alert Schindler if a service call is required.

OPTIONAL FEATURES

System Management

- LobbyVision™ - This integrated system uses a PC style interface to monitor and control multiple elevator systems within a building

Enhanced Safety Features

- Ascending car overspeed and uncontrolled motion protection

- Normal and emergency terminal speed limiting devices
- Normal and emergency machine brakes
- Final limit switch devices
- Infrared light curtain door protection
- Firefighter's service

Cab Upgrades

- Various plastic laminate wall panel finishes to choose from
- Numerous suspended ceiling designs and finishes
- A variety of code compliant handrail configurations and finishes
- Protective wall pads
- Metal clad wall panels in a variety of finishes
- Heavy gauge walls and canopy for interior finishes by others

Mechanical Upgrades

- Equipment to meet seismic requirements

COMPOSITION & MATERIALS

Elevator Cab

Cab walls are made of steel with baked enamel or No. 4 stainless steel finish and plastic laminate raised panels. Cab doors are of ribbed, double sided construction finished in baked enamel or with a variety of optional materials. Flooring is customer specified. The base, frieze and reveals have a baked enamel finish or can be finished with a variety of optional materials.

Car enclosure wall sections are made of minimum 16 gauge (0.060") steel panels. Transoms run the full width of the cab. Front

returns are of integral construction.

Handrails

Handrails are available in anodized aluminum, brushed stainless steel or bronze, in both 1 1/2" (38.1 mm) round and 1/2" x 2" (12.7 x 51 mm) flat designs.

Hoistway Entrances

The threshold and hoistway entrance sills are manufactured of extruded aluminum. Hoistway doors are of ribbed, double sided construction and are finished in baked enamel or with a variety of optional materials.

Fixtures

The Schindler HT Series is an integrated group of fixtures with contoured, contemporary styling. The HT Series meets code and ADA requirements, uses long-lasting Lexan® materials, and incorporates jamb-mounting with plug-and-play wiring for faster installation and more reliable operation. Schindler also offers these additional HT Series fixture options:

- Premium HT fixtures designed with No. 4 brushed or No. 8 mirror stainless steel or bronze cover plates
- Vandal resistant HT fixtures with brushed No. 4 stainless steel cover plates engineered to withstand abnormally rough treatment
- Wall mounted fixtures with coverplates

Ceiling

The Schindler 400A is available with a selection of 6 standard ceilings and a variety of features and finishes:

- Exposed frame suspended ceilings with

Type	Capacity	Openings	Max. travel
General purpose, front opening, rear counterweight	2500 lb (1134 kg)	20 front	200' (61 m)
	3000 lb (1361 kg)	20 front	200' (61 m)
	3500 lb (1588 kg)	20 front	200' (61 m)
General purpose, front opening, side counterweight	2100 lb (953 kg)	20 front	200' (61 m)
	2500 lb (1134 kg)	20 front	200' (61 m)
	3000 lb (1361 kg)	20 front	200' (61 m)
	3500 lb (1588 kg)	20 front	200' (61 m)
General purpose, front and rear opening (F & R), side counterweight	2500 lb (1134 kg) F & R	20 front, 20 rear, 21 max.	200' (61 m)
	3000 lb (1361 kg) F & R	20 front, 20 rear, 21 max.	200' (61 m)
	3500 lb (1588 kg) F & R	20 front, 20 rear, 21 max.	200' (61 m)
Hospital/service, front opening, side counterweight	4500 lb (2041 kg)	20 front	200' (61 m)
Hospital/service, front and rear opening, side counterweight	4500 lb (2041 kg) F & R	20 front, 20 rear, 21 max.	200' (61 m)

- fluorescent or disc lighting
- Suspended, concealed frame ceilings with downlights or perimeter lights
- Steel canopy ceiling with fluorescent lighting

SAFETY

The Schindler 400A Traction Elevator System meets safety standards required by local, state and national building codes. Detailed information about standard and optional safety features can be obtained by contacting Schindler Elevator Corp. or by visiting the company website.

SIZES

The Schindler 400A Traction Elevator System is offered in a variety of size configurations to meet specific application requirements. Contact Schindler Elevator Corp. for dimension details or visit www.us.schindler.com.

COLORS & FINISHES

The Schindler 400A is available with a wide variety of baked enamel, metal and decorative laminate cab interior options to complement virtually any building decor. Check with a local Schindler representative for the most current selection of standard and optional finishes.

Base, frieze and reveal packages are also available. Contact a Schindler representative for a complete description of color and styling options.

Cab

A selection of wood veneer or metal clad panels are available as an alternative to plastic laminate hung panels. Veneer panels are available with a natural, light, medium or dark stain finish. The following wood veneers are offered:

- Cherry
- Maple
- Mahogany
- Oak

Clad panels are available in various metal finishes. Check with a local Schindler representative for the most current selection of finishes.

BENEFITS

- Small space-saving footprint
- Little to no roof penetration required for MRL/MRS
- 30% more efficient than traditional geared models
- Self-diagnostic, on-board sensors
- Eco-friendly clean, quiet operation
- Available in a variety of design configurations to match most decors and site requirements

- Available capacities of 2100 - 4500 lb (953 - 2041 kg) to suit a wide range of applications
- E-access to online tools for real-time project information
- Smooth, quiet, reliable performance
- Hassle free design assistance and start-to-finish customer support

4. Technical Data

APPLICABLE STANDARDS

American Society of Mechanical Engineers (ASME) - ASME A17.1 Safety Code for Elevators and Escalators

National Standard of Canada/Canadian Standards Association (CAN/CSA) - CAN/CSA - B44 Safety Code for Elevators

APPROVALS

Schindler Elevator Corp. is ISO 9001 certified by the International Organization for Standardization (ISO).

5. Installation

PREPARATORY WORK

General contractor is responsible for hoistway; bevel guards; supports for rail brackets; hoistbeam; temporary electrical power; light outlets; recesses, supports and patching; all barricades outside elevator hoistways; reinforced dry pit; pit convenience outlet, light fixture and switch; enclosed and protected machine room or control room and access to same; machine room lighting, convenience outlets, heating, cooling and ventilation; fused disconnect switch for each elevator; copper feeder, ground and branch wiring circuits for signal system and power operated door; convenience outlet and telephone outlet on control panel; cutout through hoistway wall for wiring ducts and conduit; all conduit and wire runs; combustion sensing devices; and drywall framing, filling and grouting and



Schindler 400A MRL System configuration

related site preparation. For specific details, contact Schindler Elevator Corp.

Ventilation Requirements

Follow the guidelines below to maintain acceptable temperature ranges and ensure proper equipment operation:

- Machine room above models - Maintain temperature of the machine room between 55 - 90 degrees F (13 - 32 degrees C) with

TABLE 2 SCHINDLER 400A GENERAL POWER DATA AND HEAT EMISSIONS				
HP	Control & Drive Btu/h	Machine Btu/h	Current @ 480 V AC (A)*	
			Running	Accelerating
10.3 (7.7 kW)	6705 (1965 W)	1075 (315 W)	17.1	22.4
15.4 (11.5 kW)	9290 (2723 W)	1605 (470 W)	24.6	33.8
21.6 (16.1 kW)	12,435 (3644 W)	2250 (659 W)	28.8	46.1
25.3 (18.9 kW)	14,490 (4244 W)	2635 (772 W)	33.8	52.6
30.0 (22.4 kW)	16,875 (4946 W)	3125 (915 W)	37.6	53.4

NOTE: Values are approximate; consult power data for exact application details and current values for other than 480 V AC.

less than 95% humidity, non-condensing. A vented door should be avoided. Air removal should be done by ducting the air from the room to the outside if possible. Forced air removal to another part of the building or building exterior is needed to keep an air exchange through the room. Intake and exhaust vents should not be located next to each other

- Machine room-less and machine room side models: Maintain the temperature of the control space/control room between 55 - 90 degrees F (13 - 32 degrees C) with less than 95% humidity, non-condensing. A vented door should be avoided. Air removal should be done by ducting the air from the room to the outside if possible. A forced removal of the air to another part of the building or building exterior is needed to keep an air exchange through the control space. Intake and exhaust vents should not be located next to each other. Maintain the overhead machinery space temperature at the top of the hoistway between 32 - 122 degrees F (0 - 50 degrees C) with less than 95% humidity, non-condensing

METHODS

Factory trained, certified Schindler technicians will install the elevator unit in accordance with the project specifications and manufacturer's guidelines.

BUILDING CODES

Installation must comply with the requirements of all applicable local, state and national codes.

6. Availability & Cost

AVAILABILITY

Schindler Elevator Corp. products are available throughout the U.S. and Canada. Schindler has over 250 offices in North America and is present in over 100 countries worldwide. Check the website for the nearest location.

COST

Budget installed cost information may be obtained from Schindler.

7. Warranty

Material and workmanship are warranted for 1 year after installation or acceptance of work, whichever is earlier. Complete warranty terms and conditions are available from the manufacturer. For details, consult Schindler Elevator Corp.

8. Maintenance

A renewal parts catalog and maintenance requirements are provided with every elevator unit. Trained technicians will periodically inspect the unit for a period of months as outlined in the specifications after completed installation or acceptance of work and will make any necessary adjustments, including parts lubrication and replacement, in accordance with warranty and contract terms. Further maintenance is offered through the Schindler's SENSE service plan option. Details are available from Schindler Elevator Corp.

9. Technical Services

Schindler offers a number of value added technical tools and services, many of which are available on the Schindler website. These e-tools include the following:

- SchindlerDraw and SchindlerSpec - These free online tools are accessed through the Schindler website and allow users to create job specific scale drawings and ready-to-use specifications for elevators, escalators and moving walks
- Schindler Customer Clock - Registered customers can access up-to-date, online Schindler job tracking reports and scheduling data from the Schindler website
- Schindler Customer Score Card - From the Schindler website, registered customers can access accurate, up-to-date reports detailing all maintenance activity on their Schindler elevators, escalators or moving walk units
- My Schindler - By setting up their own customized web page, registered users can establish one-click access to all their information

Technical assistance, including more detailed information, product literature, test results, project lists, assistance in preparing project specifications and arrangements for application supervision, is available by contacting Schindler Elevator Corp.

10. Filing Systems

- Reed First Source®
- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.