



Schindler 330A

The dependable holeless hydraulic elevator for low-rise buildings

We Elevate



ZONING COMMISSION
Original Document
Schindler
CASE NO.23-29
EXHIBIT NO.21C1

Simple

The Schindler 330A's holeless design completely eliminates the below grade jackhole, which makes construction less costly and far less complex. At the same time, precision engineering offers you the smooth, reliable performance you expect from a Schindler hydraulic elevator system.



Jamb-mounted fixtures

Complete holeless solution for low-rise buildings

Exceptional performance. With the Schindler 330A holeless hydraulic elevator, you have a smarter, more efficient solution for a wide range of low-rise applications, including office buildings, apartments, condominiums, retail locations, hotels, hospitals and more.

Best of all, the broad choice of configurations, finishes and options lets you take advantage of this efficient holeless solution with almost any decor, style or specialized site requirement.

Less complex, more efficient

- Holeless design
- Precision engineering for quiet, smooth, reliable performance
- Simpler site preparation, fewer building interfaces, easier installation
- Jamb-mounted fixtures to reduce installation time
- Versatile style
- Schindler Ahead ready
- All designs, clearances, construction, workmanship and materials are compliant with the latest applicable ASME A17 and CSA B44 elevator and escalator codes and standards, NFPA 70 National Electric Code, ICC International Building Code, ICC/ANSI A117.1, and Federal ADA/ABA accessibility standards and guidelines, except as modified by specific local codes and regulations where designs, clearances, construction, workmanship and materials comply with those specific local codes and regulations.

Versatile, flexible, adaptable

The unique design of the Schindler 330A makes it your best choice wherever the situation demands fast, efficient installation, attractive styling, and day-in day-out reliability.

Wide application range:

- Dual-jack applications
- 2100 lb., 2500 lb., 3000 lb., 3500 lb., and 4000 lb. capacity for general purpose passenger use
- 4000 lb., 4500 lb., and 5000 lb. capacity for hospital/service use
- Two- to six-stop configurations, eight openings
- One- to three-car systems
- Single- and two-speed side-opening doors; and single-speed center-opening doors depending on the capacity selected
- Front- and rear-opening configurations available on all capacities
- Up to 50 ft. of travel (with additional pit and/or overhead); contact your local Schindler representative for specific details.



Schindler telescoping jack system

Above-ground hydraulics, simpler building preparation, more reliable operation

Telescoping jack system: the holeless solution

Schindler's telescoping jack system mounts directly on the floor of a simple, self-contained pit, eliminating the need for drilling holes in the ground and avoiding the potential for below-ground leaks. Tandem jacks are mounted on either side of the car. Vertical travel can be as high as 50 feet with its dual jack design. (Additional pit depth or overhead may be required.) As the elevator ascends, all stages of the telescoping pistons extend simultaneously, producing a smooth and solid ride. Since the jack design has only minimal interface with the hoistway, it greatly simplifies installation in existing structures, and reduces hoistway preparation in new buildings.

Controller and pump unit: quiet dependability

- To optimize overall system performance and help simplify maintenance, the Schindler 330A features advanced Miconic HX microprocessor controls.
- A sensor on the submersible power unit monitors for recommended motor and oil temperature, improving reliability.
- The high-performance muffler reduces operating noise.
- 'Soft-Start' electronically controls the motor starting current to reduce stress on the hydraulic drive and seals. It helps avoid shutdowns due to overheating, reduces seal maintenance and allows for quieter operation.

Door operator: reliably safe

- The advanced closed-loop feedback door operator assures smooth, reliable and safe operation.
- Schindler's infrared light curtain detects people or objects in the doorway without physical contact — to quickly and safely reopen the door.
- Components are reliability-tested through more than one million cycles.

Schindler Ahead ready

The Schindler 330A hydraulic elevator is Schindler Ahead ready, providing remote monitoring of the unit, along with other benefits, such as increased uptime, greater equipment insights, and digital phone connectivity. Schindler Ahead allows the ADA-compliant emergency phone to be connected to a wireless network. This eliminates the coordination and cost to install an analogue phone line during construction. To learn more about the many benefits of Schindler Ahead, please contact your Schindler representative.

Installation specialists: highly trained

The Schindler 330A hydraulic elevator system is installed by specialists who have been trained to use the latest installation techniques and tools. Their training is your assurance that your Schindler 330A elevators will be installed efficiently and expertly.

Choices



Ceilings

- Choose from exposed frame suspended ceilings with fluorescent lighting, concealed frame suspended ceilings with downlights, or a steel canopy ceiling with fluorescent lighting.

Wall options

- Choose from steel shell finished in brushed stainless steel or plastic laminate panels.

Finishes

- Laminate: Dozens of durable plastic laminates are available to provide unlimited design possibilities.
- Powder coat: Choose from a selection of colors available for entrances. The finish is easy to clean and the factory-applied paint process has a high user appeal and excellent quality and durability.
- Metal: Cars, entrances and fixtures can be enhanced with brushed stainless steel.

Base, frieze and reveal package for cabs with laminate panels

- Brushed stainless steel.



Handrails

- Brushed stainless steel in 1 1/2" round
- Brushed aluminum in 1/2" x 2" flat
- Available with straight or returned ends.

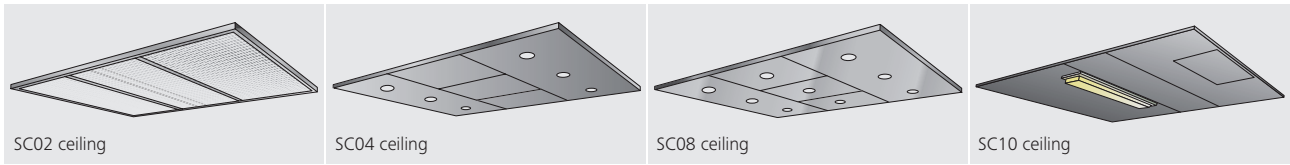


Rear glass wall option

- Available for 2500 lb., 3000 lb. and 3500 lb. capacities.

A wide spectrum of design options

Ceilings



Laminate wall finishes



Powder coat entrance finishes



Actual laminate and powder coat color finishes may vary slightly.
Custom color matching may be available at an additional cost.
Contact your Schindler sales representative for details.

Metal finishes



Consult with your Schindler representative for metal finishes options, pricing and availability.
† 5WL available as removable panels only.

Outfit your elevator with style

Schindler HT fixtures

The Schindler HT series is an integrated group of fixtures with contoured, contemporary styling that suits any decor. Manufactured to meet Schindler's high standards for quality, they:

- Meet ADA requirements as well as applicable local and national codes
- Use materials to withstand years of heavy use
- Illuminate using long-lasting LEDs for easy visibility and long life
- Use jamb-mounting and plug-and-play wiring for faster installation
- Need no cutouts in lobby walls
- Require fewer interfaces with other construction trades.

Schindler HT fixture options

The Schindler HT series of fixtures is also available in Premium or Vandal-Resistant configurations.

- Premium HT hall fixtures: Schindler Premium HT hall fixtures retain the general look, components and mounting of the standard HT fixtures. However, they are designed with sleek #4 brushed stainless steel cover plates, providing aesthetic design flexibility.
- Vandal-resistant HT fixtures: For more demanding service locations, a vandal-resistant design is also available with coverplates, pushbuttons and lenses engineered to withstand abnormally rough treatment. Pushbuttons are available in #4 brushed stainless steel. Cover plates are available in #4 brushed stainless steel.
- Wall-mounted fixtures: Schindler HT hall fixtures are shipped jamb-mounted. Wall-mounting is available at the time of order. Contact your local Schindler representative for specific details.

Two-Way Elevator Emergency Communications System

When required, the Two-Way Emergency Communications system easily integrates into your Schindler 330A elevator and complies with the latest code requiring in-elevator two-way emergency communication systems for the hearing impaired. Contact your local Schindler sales representative to learn more.

3D Door Detection systems

Your Schindler 330A elevator is enhanced with a 3D hallway detection system where required by code. Please see your local Schindler sales representative for more information.

Serial technology

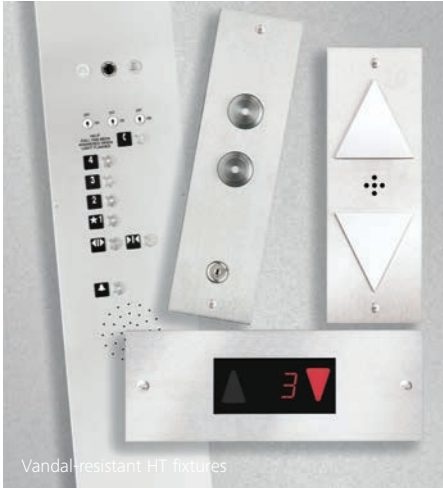
The Schindler 330A system integrates serial technology, to communicate to the elevator car, including car and corridor fixtures. Simplified wire runs and pre-connected boards bring new levels of reliability to building management, and may interface with systems such as HVAC emergency power and security.



Schindler HT fixtures



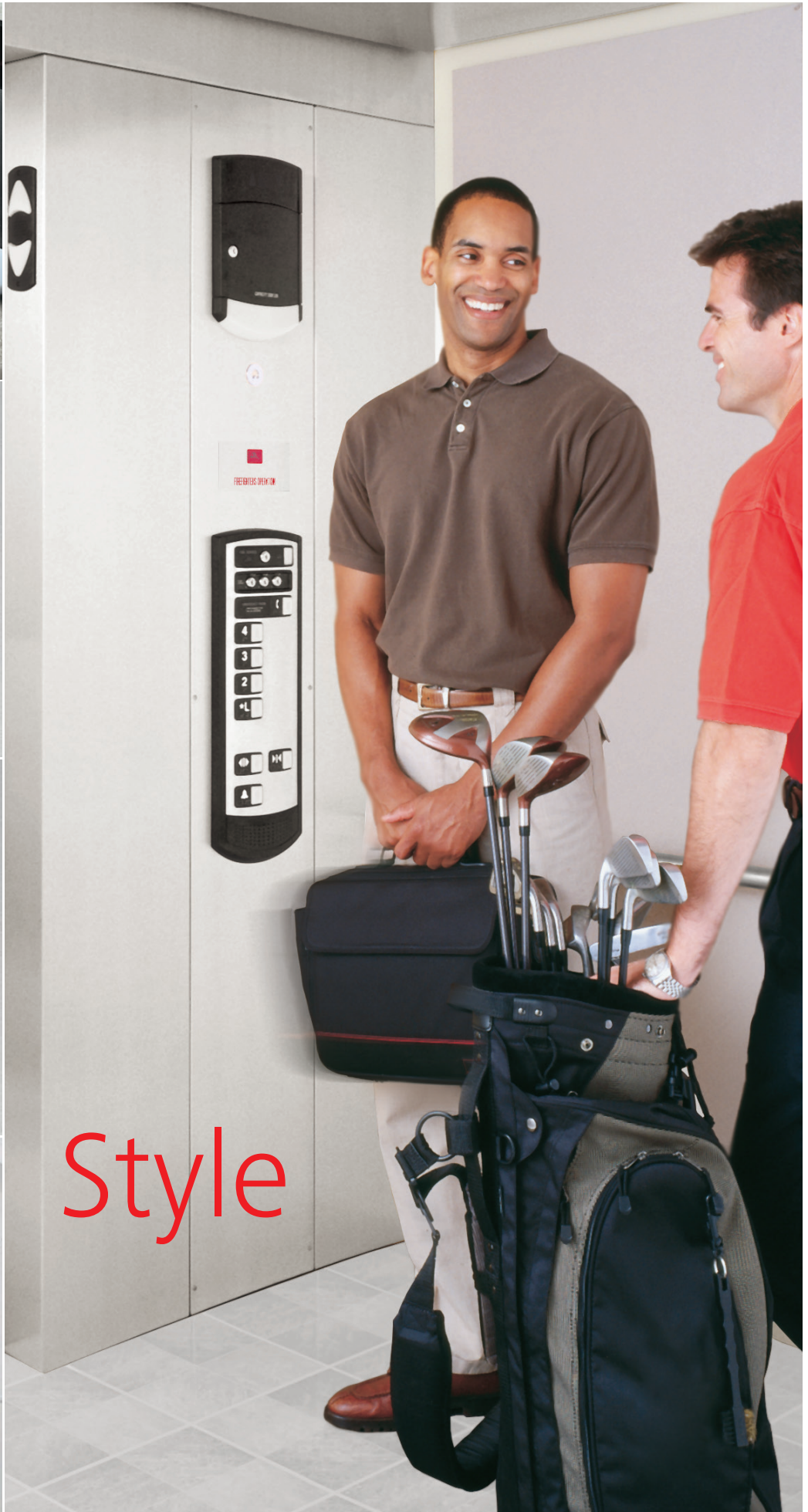
Premium HT hall fixtures



Vandal-resistant HT fixtures



Wall-mounted fixtures



Style

Schindler Service. Redefining reliability.



Schindler Service addresses your top priorities

Because we know life is a moving experience, Schindler Service delivers assurance that your elevators and escalators will be running when you need them. For over 140 years, we have been pushing boundaries to build lasting partnerships.

- Reliability: Highly trained technicians, supported by an entire global network of experts, are focused on reducing service calls to maximize your equipment availability.
- Responsiveness: Structured maintenance routines and real-time dynamic scheduling are integrated to provide you the right service and parts at the right time.
- Communication: Real-time access to your equipment status, email notifications, surveys and our dedicated people help keep you informed. With Schindler Service, you enjoy access to performance and maintenance records for your elevators and escalators as well as customizable reports with the Schindler ActionBoard online tool and app.

- Customer service: Regular customer surveys, a vast replacement parts inventory and no-cost proposals for capital planning are among the many services we provide as your service partner.
- Results: Our aim is to exceed your expectations by delivering maximum availability, fewer service calls and exceptional customer satisfaction.
- Sustainability and safety: Developing ever more sustainable mobility solutions while enhancing customer, end-user and employee safety are at the heart of providing first-class service.

The bottom line is we provide the right service, at the right time, so you don't have to worry.



Online tools for your building

Advanced support for elevator and escalator planning

With Schindler Plan, architects and specifiers have access to CAD drawings and specifications for elevators, escalators and moving walks. In addition, Schindler offers advanced Revit BIM models.

Schindler Ahead ActionBoard — accountability you can see

Service customers enjoy access to performance and maintenance records for their elevators and escalators as well as customizable reports with the Schindler ActionBoard online tool and app. Customers can also track specific pieces of equipment in real-time, if enrolled in a Schindler Ahead Core package.

Visit www.us.schindler.com to access unprecedented web-based tools.

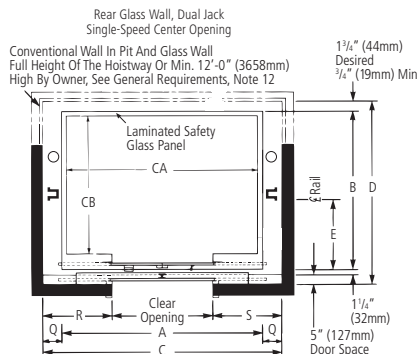
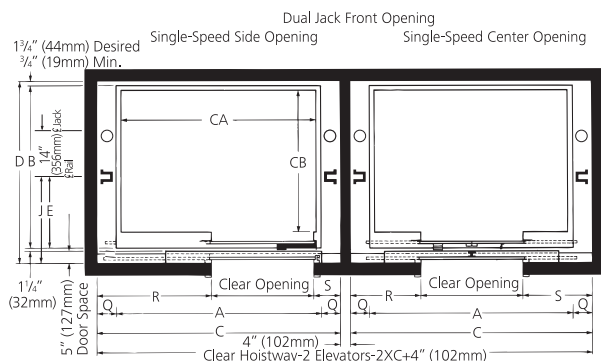
Schindler 330A Holeless Hydraulic Elevator

General Purpose, Dual Jack, Front Opening

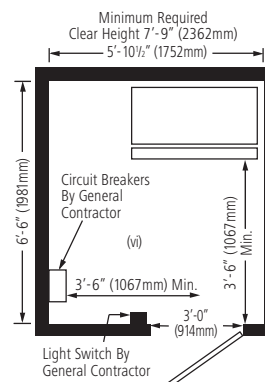
Standard Speeds: 100, 125, 150 fpm (0.5, 0.6, 0.8 m/s).

Maximum Openings: 6 Front.

Hatch Plans



Machine Room



Dimensions

Capacity lb (kg) (ix)	Max. Travel† ft (m) (i)	Opening Type (ii)	Clear Opening Width ft (mm)	Platform Size		Min. Clear Cab Inside		Hoistway		E in (mm)	J in (mm)	Q in (mm)	R		S	
				A Width ft (mm)	B Depth ft (mm)	CA Width ft (mm)	CB Depth ft (mm)	C Clear Width ft (mm) (viii)	D Wall to Wall ft (mm)				SSSO Doors in (mm)	SSCO Doors in (mm)	SSSO Doors in (mm)	SSCO Doors in (mm)
2100 (952)	50'-0" (15.2)	SSSO	3'-0" (914)	6'-0" (1828)	5'-1" (1549)	5'-8" (1727)	4'-3" (1295)	7'-4" (2235)	5'-9" (1753)	2'-2 1/2" (673)	2'-8 3/4" (832)	8" (203)	3'-5" (1041)	—	11" (279)	—
2500 (1134)	50'-0" (15.2)	SSSO/ SSCO	3'-6" (1067)	7'-0" (2134)	5'-1" (1549)	6'-8" (2032)	4'-3" (1295)	8'-4" (2540)	5'-9" (1753)	2'-2 1/2" (673)	2'-8 3/4" (832)	8" (203)	3'-11" (1194)	2'-5" (737)	11" (279)	2'-5" (737)
3000 (1361)	50'-0" (15.2)	SSSO/ SSCO	3'-6" (1067)	7'-0" (2134)	5'-7" (1702)	6'-8" (2032)	4'-9" (1448)	8'-4" (2540)	6'-3" (1905)	2'-2 1/2" (673)	2'-8 3/4" (832)	8" (203)	3'-11" (1194)	2'-5" (737)	11" (279)	2'-5" (737)
3500 (1588)	50'-0" (15.2)	SSSO/ SSCO	3'-6" (1067)	7'-0" (2134)	6'-3" (1905)	6'-8" (2032)	5'-5" (1651)	8'-4" (2540)	6'-11" (2108)	2'-8" (813)	3'-2 1/4" (972)	8" (203)	3'-11" (1194)	2'-5" (737)	11" (279)	2'-5" (737)
4000 (1814)	48'-0" (14.6)	SSCO	4'-0" (1219)	8'-0" (2438)	6'-3" (1905)	7'-8" (2337)	5'-5" (1651)	9'-4" (2845)	6'-11" (2108)	2'-8" (813)	3'-2 1/4" (972)	8" (203)	—	2'-8" (813)	—	2'-8" (813)

† Maximum travel based on standard car weight. Heavier cars may reduce maximum allowable travel.
Schindler offers a generous 3/4" floor recess accepting a variety of options from your flooring contractor.

Notes

Dimensions shown are for U.S. applications. For specific requirements in Canada, please consult your local Canadian sales office.

(i) Maximum travel based on 8'-0" (2439mm) high cab, with overhead and pit dimensions as shown in the table.

(ii) SSSO doors available with right or left opening.

(iii) Hoist beam to be removed by others after elevator installation if minimum cab clearance is not available. Consult your local sales representative for hoist beam requirements.

(iv) For maximum car guide rail bracket vertical spacing, consult your local sales representative.

(v) Adequate steel or concrete beam or concrete wall supports are required for car guide rail mounting brackets based on elevator shop drawing loadings at each floor per ASME A17.1 Code and CAN/CSA-B44. Mounting and interface between building support and car rail brackets to be in agreement between customer and elevator contractor.

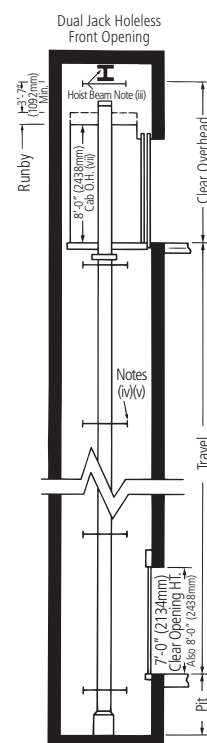
(vi) Larger area is required in California or when two or more power units are used for elevators with common machine room.

(vii) 8'-0" (2439mm) cab height with 7'-0" (2134mm) entrance standard. 9'-0" (2743mm) cab height with 7'-0" (2134mm) entrance or 8'-0" (2439mm) entrance, and 10'-0" (3048mm) cab height with 8'-0" (2439mm) entrance also available.

(viii) For areas in seismic zone 2 or greater, provide additional 2" (50mm) width.

(ix) 3500 lb will accommodate a 24" x 84" stretcher with SSSO doors only.

Hoistway Elevation



Minimum Overhead and Pit Requirements

100 fpm (0.5m/s)			125 and 150 fpm (0.6 and 0.8m/s)		
Travel ft (m)	Overhead ft (mm)	Pit ft (mm)	Travel ft (m)	Overhead ft (mm)	Pit ft (mm)
Up to 36'-6" (11.1)	Cab Height + 4'-0" (1219)	4'-0" (1219)	Up to 35'-3" (10.7)	Cab Height + 4'-3" (1295)	4'-0" (1219)
36'-6" (11.1) to 50'-0" (15.2)**	Cab Height + 4'-0" (1219)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 36'-6" (11.1)]*	35'-3" (10.7) to 50'-0" (15.2)**	Cab Height + 4'-3" (1295)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 35'-3" (10.7)]*

* If additional pit is not available, add this dimension to the overhead. Consult your local sales representative if additional overhead and pit are not available.

** 50'-0" (14.6m) maximum standard travel for 2100lb (952kg), 2500lb (1134kg), 3000lb (1361kg) and 3500lb (1588kg) models. Consult engineering for greater travel.

General Requirements

Requirements for installation vary by type of equipment selected. These general requirements will serve as a guide to assist you in preparing your building for the installation of Schindler elevators.

All designs, clearances, construction, workmanship and materials are compliant with the latest applicable ASME A17 and CSA B44 elevator and escalator codes and standards, NFPA 70 National Electric Code, ICC International Building Code, ICC/ANSI A117.1, and Federal ADA/ABA accessibility standards and guidelines, except as modified by specific local codes and regulations where designs, clearances, construction, workmanship and materials comply with those specific local codes and regulations.

Items To Be Provided — To complete the installation, the following items must be considered, which are not included in the elevator contract:

Hoistway

1. Clear, plumb hoistway, with variations on a minimum dimension hoistway not to exceed -0" and +1" (25.4mm) per side at any point. Two-hour fire resistance rating of hoistway walls or rating to meet applicable local codes.
2. 75° bevel guards on all projections, recesses or setbacks over 2" (51mm) (ASME A17.1) or 4" 100mm (CAN/CSA-B44) except on side used for loading or unloading.
3. Number of cars in hoistway, minimum size of cars, venting and fire rating of doors and entrances must be specified per applicable Building Code.
4. Supports for rail brackets at pit, each floor and roof. Maximum allowable vertical spacing of rail supports, without backing. Divider beams between hoistway at each floor and roof, for guide rail bracket supports.
5. Light outlet for each elevator, in center of hoistway, pit and machine room, as indicated by your elevator contractor.
6. Recesses, supports, and patching, as required, to accommodate wall mounted hall button boxes, signal fixtures, etc.
7. All barricades either outside elevator hoistways or between elevators inside hoistways as required.
8. Dry pit reinforced to sustain normal vertical forces from rails, jack units and buffers. Pit to be level and free of debris at jack unit and buffer locations. Consult Schindler sales representative for rail forces, jack loads and buffer impacts. Where space below pit floor can be occupied, consult Schindler sales representative for special requirements.
9. Convenience outlet and light fixture in pit with switch located adjacent to access door per ASME A17.1 Rule 2.2.5 and CAN/CSA-B44 2.7.5.
10. Where access to pit is by means of lowest hoistway entrance, vertical ladder of non-combustible material extending 42" minimum above sill of access door or handgrips shall be provided to the same height.
11. Coordinate sump hole location in pit with Schindler representative to avoid interference with jack unit locations.
12. For interior application of hydraulic elevators with front opening and rear glass wall, a minimum 12' high glass enclosure above bottom landing is recommended for safety. For exterior application, full height glass enclosure is required.

Machine Room

13. Enclosed and protected machine room.
14. Access to machine room and machinery space as required by governing code or authority.
15. Lighting, convenience outlets, heating, cooling and ventilation of machine room and machinery space. Machine room temperature to be maintained between 55° F and 90° F (13° C and 32° C). Relative humidity to be maintained at 95% or less non-condensing.
16. A fused disconnect switch for each elevator and light switch located per National Electrical Code, (NFPA No. 70), and where practicable, located inside machine room adjacent to door.
17. Suitable copper feeder, ground and branch wiring circuits for signal system and power operated door, including main line switch. Feeder and branch wiring circuits for car light and fan, including main line switch. Ground fault protection as required by NEC 620-85.
18. Clear access above ceiling, or metal/concrete raceways in floor, for oil line and wiring duct from machine room, if machine room is remote from elevator hoistway.
19. Cutout through machine room wall, 8"x 16" (203mm x 406mm), for oil line and wiring duct. Coordinate with Schindler construction superintendent at building site.

20. Hoisting beams, trap doors, ladders or stairs and other means of access to machine room for maintenance and equipment removal purposes.
21. Convenience outlet and telephone outlet on control panel.
22. All conduit and wire runs remote from either the machine room or the hoistways.
23. Heat, smoke or products of combustion sensing devices connected to elevator machine room terminals when such devices are required. Make contacts on the sensors should be sized for 120 volt D.C.

Emergency Provisions

24. Elevator Firefighter's and other emergency services are required in certain buildings, depending on height of the building or number of landings.
25. Elevator Firefighter's Service is required per ASME A17.1 Rule 2.27.3 and may be required per CAN/CSA-B44 3.12.15.1.1. Elevator Firefighter's Service wiring and interconnections to automatic sprinkler systems or heat and smoke sensing devices furnished by others. Emergency services may be required by Building Code.
26. When emergency/standby power operation of elevators is required, the Electrical Contractor should coordinate with your elevator contractor for operation requirements.
27. Provisions for earthquake protection, dictated by the Building Codes, may be required. Consult your elevator contractor for special requirements.
28. For IBC-2018 or A17.1-2019 jurisdictions, that require the Visual Communication Device in the Elevator Car, an internet connection, one per elevator group, shall be provided by the building. The internet connection shall be a generic network with a regular ISP modem. The internet-connection line shall be an RJ45 ethernet connection cable and shall originate in the Machine Room, and connect to the building internet connection or the local monitoring station if the building provides on-site live staffing. If the building has a Symmetric NAT network, it is recommended that they provide a non-Symmetric NAT portion of their network to connect to the VAM. Additional details on the internet connection can be provided upon request if needed. This internet connection is required to have an un-interrupted power supply for a duration of 4 hours to allow the Visual Communication Device to function if building power is lost.

Entrances

29. Hoistway walls are to have a fire-resistance rating in accordance with ASME A17.1 Rule 2.1.1.1.
30. Furnishing, installing and maintaining the required fire rating of elevator hoistway walls, including the penetration of fire wall by elevator fixture boxes, is not the responsibility of the elevator contractor.
31. The interface of the elevator wall with the hoistway entrance assembly shall be in strict compliance with the elevator contractor's requirements.
32. Entrance wall and finished floor are not to be constructed until after door frames and sills are in place.
 - a. Where front walls are of reinforced concrete, the concrete openings must be minimum 16" (406mm) wide [8" (203mm) on each side] and 8" (203mm) higher than the clear opening (including transom height).
 - b. Where drywall or sheet rock construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with the elevator contractor.
 - c. Door frames are to be anchored to walls and properly grouted in place to maintain legal fire rating (masonry construction).
33. Filling and grouting around entrance.
34. The use of 18 gauge (.048") materials for doors have UL approval.
35. Where openings occur, all walls and sill supports must be plumb.
36. When sill supports are provided by the elevator manufacturer, hoistway should be capable of accepting anchor stud type fasteners.
37. When fluted steel decking is used under concrete flooring, the concrete must be no less than 4 1/2" (119mm) thick; 2" (51mm) thick for sill angle anchors.

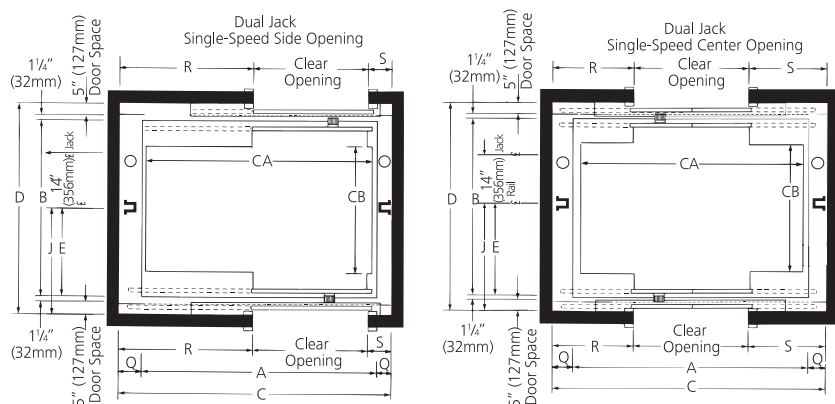
Schindler 330A Holeless Hydraulic Elevator

General Purpose, Dual Jack, Front/Rear Opening

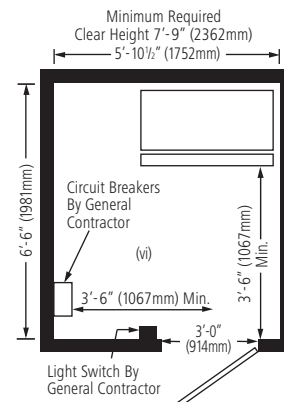
Standard Speeds: 100, 125, 150 fpm (0.5, 0.6, 0.8 m/s).

Maximum Openings: 6 Front, 4 Rear, 8 Total.

Hatch Plans



Machine Room



Dimensions

Capacity lb (kg) (ix)	Max. Travel† ft (m) (i)	Opening Type (ii)	Clear Opening width ft (mm)	Platform Size		Min. Clear Cab Inside		Hoistway		E in (mm)	J in (mm)	Q in (mm)	R		S
				A Width ft (mm)	B Depth ft (mm)	CA Width ft (mm)	CB Depth ft (mm)	C Clear Width ft (mm) (viii)	D Wall to Wall ft (mm)				SSSO Doors in (mm)	SSCO Doors in (mm)	
2100 (952)	50'-0\"/>	SSSO	3'-0\"/>	6'-0\"/>	5'-7\"/>	5'-8\"/>	4'-3 1/2\"/>	7'-4\"/>	6'-7 1/2\"/>	2'-2 1/2\"/>	2'-8 3/4\"/>	8\"/>	3'-5\"/>	-	11\"/>
2500 (1134)	50'-0\"/>	SSSO/	3'-6\"/>	7'-0\"/>	5'-7\"/>	6'-8\"/>	4'-3 1/2\"/>	8'-4\"/>	6'-7 1/2\"/>	2'-2 1/2\"/>	2'-8 3/4\"/>	8\"/>	3'-11\"/>	2'-5\"/>	11\"/>
3000 (1361)	50'-0\"/>	SSCO	3'-6\"/>	7'-0\"/>	5'-7\"/>	6'-8\"/>	4'-3 1/2\"/>	8'-4\"/>	6'-7 1/2\"/>	2'-2 1/2\"/>	2'-8 3/4\"/>	8\"/>	3'-11\"/>	2'-5\"/>	11\"/>
3500 (1588)	50'-0\"/>	SSSO/	3'-6\"/>	7'-0\"/>	6'-9\"/>	6'-8\"/>	5'-5 1/2\"/>	8'-4\"/>	7'-9 1/2\"/>	2'-9\"/>	3'-3 1/4\"/>	8\"/>	3'-11\"/>	2'-5\"/>	11\"/>
4000 (1814)	48'-0\"/>	SSCO	4'-0\"/>	8'-0\"/>	6'-9\"/>	7'-8\"/>	5'-5 1/2\"/>	9'-4\"/>	7'-9 1/2\"/>	2'-9\"/>	3'-3 1/4\"/>	8\"/>	-	2'-8\"/>	2'-8\"/>

† Maximum travel based on standard car weight. Heavier cars may reduce maximum allowable travel.

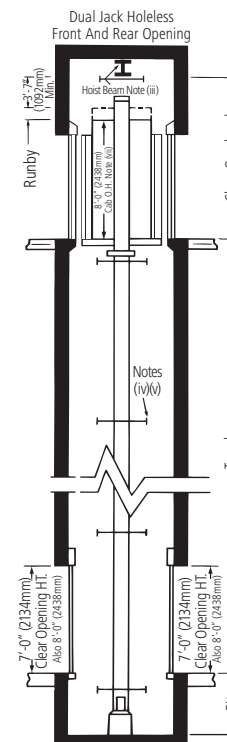
Schindler offers a generous 3/4\"/>

Notes

Dimensions shown are for U.S. applications. For specific requirements in Canada, please consult your local Canadian sales office.

- Maximum travel based on 8'-0\"/>
- SSSO doors available with right or left opening.
- Hoist beam to be removed by others after elevator installation if minimum cab clearance is not available. Consult your local sales representative for hoist beam requirements.
- For maximum car guide rail bracket vertical spacing, consult your local sales representative.
- Adequate steel or concrete beam or concrete wall supports are required for car guide rail mounting brackets based on elevator shop drawing loadings at each floor per ASME A17.1 Code and CAN/CSA-B44. Mounting and interface between building support and car rail brackets to be in agreement between customer and elevator contractor.
- Larger area is required in California or when two or more power units are used for elevators with common machine room.
- 8'-0\"/>
- For areas in seismic zone 2 or greater, provide additional 2\"/>
- 3500 lb will accommodate a 24\"/>

Hoistway Elevation



Minimum Overhead and Pit Requirements

100 fpm (0.5m/s)			125 and 150 fpm (0.6 and 0.8m/s)		
Travel ft (m)	Overhead ft (mm)	Pit ft (mm)	Travel ft (m)	Overhead ft (mm)	Pit ft (mm)
Up to 36'-6" (11.1)	Cab Height + 4'-0" (1219)	4'-0" (1219)	Up to 35'-3" (10.7)	Cab Height + 4'-3" (1295)	4'-0" (1219)
36'-6" (11.1) to 50'-0" (15.2)**	Cab Height + 4'-0" (1219)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 36'-6" (11.1)]*	35'-3" (10.7) to 50'-0" (15.2)**	Cab Height + 4'-3" (1295)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 35'-3" (10.7)]*

* If additional pit is not available, add this dimension to the overhead. Consult your local sales representative if additional overhead and pit are not available.

** 50'-0" (14.6m) maximum standard travel for 2100lb (952kg), 2500lb (1134kg), 3000lb (1361kg) and 3500lb (1588kg) models. Consult engineering for greater travel.

General Requirements

Requirements for installation vary by type of equipment selected. These general requirements will serve as a guide to assist you in preparing your building for the installation of Schindler elevators.

All designs, clearances, construction, workmanship and materials are compliant with the latest applicable ASME A17 and CSA B44 elevator and escalator codes and standards, NFPA 70 National Electric Code, ICC International Building Code, ICC/ANSI A117.1, and Federal ADA/ABA accessibility standards and guidelines, except as modified by specific local codes and regulations where designs, clearances, construction, workmanship and materials comply with those specific local codes and regulations.

Items To Be Provided — To complete the installation, the following items must be considered, which are not included in the elevator contract:

Hoistway

1. Clear, plumb hoistway, with variations on a minimum dimension hoistway not to exceed -0" and +1" (25.4mm) per side at any point. Two-hour fire resistance rating of hoistway walls or rating to meet applicable local codes.
2. 75° bevel guards on all projections, recesses or setbacks over 2" (51mm) (ASME A17.1) or 4" 100mm (CAN/CSA-B44) except on side used for loading or unloading.
3. Number of cars in hoistway, minimum size of cars, venting and fire rating of doors and entrances must be specified per applicable Building Code.
4. Supports for rail brackets at pit, each floor and roof. Maximum allowable vertical spacing of rail supports, without backing. Divider beams between hoistway at each floor and roof, for guide rail bracket supports.
5. Light outlet for each elevator, in center of hoistway, pit and machine room, as indicated by your elevator contractor.
6. Recesses, supports, and patching, as required, to accommodate wall mounted hall button boxes, signal fixtures, etc.
7. All barricades either outside elevator hoistways or between elevators inside hoistways as required.
8. Dry pit reinforced to sustain normal vertical forces from rails, jack units and buffers. Pit to be level and free of debris at jack unit and buffer locations. Consult Schindler sales representative for rail forces, jack loads and buffer impacts. Where space below pit floor can be occupied, consult Schindler sales representative for special requirements.
9. Convenience outlet and light fixture in pit with switch located adjacent to access door per ASME A17.1 Rule 2.2.5 and CAN/CSA-B44 2.7.5.
10. Where access to pit is by means of lowest hoistway entrance, vertical ladder of non-combustible material extending 42" minimum above sill of access door or handgrips shall be provided to the same height.
11. Coordinate sump hole location in pit with Schindler representative to avoid interference with jack unit locations.

Machine Room

12. Enclosed and protected machine room.
13. Access to machine room and machinery space as required by governing code or authority.
14. Lighting, convenience outlets, heating, cooling and ventilation of machine room and machinery space. Machine room temperature to be maintained between 55° F and 90° F (13° C and 32° C). Relative humidity to be maintained at 95% or less non-condensing.
15. A fused disconnect switch for each elevator and light switch located per National Electrical Code, (NFPA No. 70), and where practicable, located inside machine room adjacent to door.
16. Suitable copper feeder, ground and branch wiring circuits for signal system and power operated door, including main line switch. Feeder and branch wiring circuits for car light and fan, including main line switch. Ground fault protection as required by NEC 620-85.
17. Clear access above ceiling, or metal/concrete raceways in floor, for oil line and wiring duct from machine room, if machine room is remote from elevator hoistway.
18. Cutout through machine room wall, 8"x 16" (203mm x 406mm), for oil line and wiring duct. Coordinate with Schindler construction superintendent at building site.
19. Hoisting beams, trap doors, ladders or stairs and other means of access to machine room for maintenance and equipment removal purposes.

20. Convenience outlet and telephone outlet on control panel.
21. All conduit and wire runs remote from either the machine room or the hoistways.
22. Heat, smoke or products of combustion sensing devices connected to elevator machine room terminals when such devices are required. Make contacts on the sensors should be sized for 120 volt D.C.

Emergency Provisions

23. Elevator Firefighter's and other emergency services are required in certain buildings, depending on height of the building or number of landings.
24. Elevator Firefighter's Service is required per ASME A17.1 Rule 2.27.3 and may be required per CAN/CSA-B44 3.12.15.1.1. Elevator Firefighter's Service wiring and interconnections to automatic sprinkler systems or heat and smoke sensing devices furnished by others. Emergency services may be required by Building Code.
25. When emergency/standby power operation of elevators is required, the Electrical Contractor should coordinate with your elevator contractor for operation requirements.
26. Provisions for earthquake protection, dictated by the Building Codes, may be required. Consult your elevator contractor for special requirements.
27. For IBC-2018 or A17.1-2019 jurisdictions, that require the Visual Communication Device in the Elevator Car, an internet connection, one per elevator group, shall be provided by the building. The internet connection shall be a generic network with a regular ISP modem. The internet-connection line shall be an RJ45 ethernet connection cable and shall originate in the Machine Room, and connect to the building internet connection or the local monitoring station if the building provides on-site live staffing. If the building has a Symmetric NAT network, it is recommended that they provide a non-Symmetric NAT portion of their network to connect to the VAM. Additional details on the internet connection can be provided upon request if needed. This internet connection is required to have an un-interrupted power supply for a duration of 4 hours to allow the Visual Communication Device to function if building power is lost.

Entrances

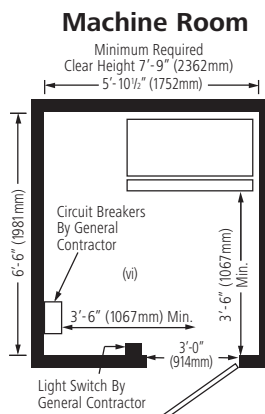
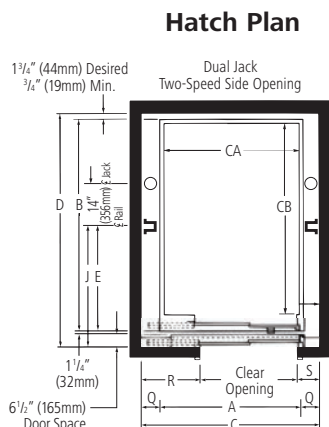
28. Hoistway walls are to have a fire-resistance rating in accordance with ASME A17.1 Rule 2.1.1.1.
29. Furnishing, installing and maintaining the required fire rating of elevator hoistway walls, including the penetration of fire wall by elevator fixture boxes, is not the responsibility of the elevator contractor.
30. The interface of the elevator wall with the hoistway entrance assembly shall be in strict compliance with the elevator contractor's requirements.
31. Entrance wall and finished floor are not to be constructed until after door frames and sills are in place.
 - a. Where front walls are of reinforced concrete, the concrete openings must be minimum 16" (406mm) wide [8" (203mm) on each side] and 8" (203mm) higher than the clear opening (including transom height).
 - b. Where drywall or sheet rock construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with the elevator contractor.
 - c. Door frames are to be anchored to walls and properly grouted in place to maintain legal fire rating (masonry construction).
31. Filling and grouting around entrance.
32. The use of 18 gauge (.048") materials for doors have UL approval.
33. Where openings occur, all walls and sill supports must be plumb.
34. When sill supports are provided by the elevator manufacturer, hoistway should be capable of accepting anchor stud type fasteners.
35. When fluted steel decking is used under concrete flooring, the concrete must be no less than 4 1/2" (119mm) thick; 2" (51mm) thick for sill angle anchors.

Schindler 330A Holeless Hydraulic Elevator

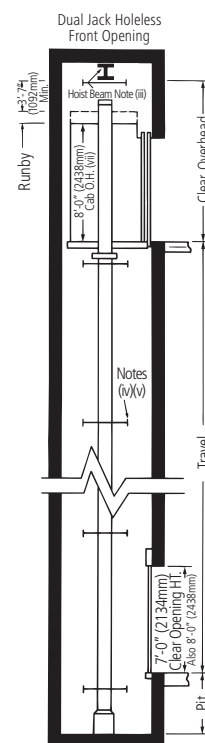
Hospital/Service, Dual Jack, Front Opening

Standard Speeds: 100, 125, 150 fpm (0.5, 0.6, 0.8 m/s).

Maximum Openings: 6 Front.



Hoistway Elevation



Dimensions

Capacity lb (kg) (ix)	Max. Travel† ft (m) (i)	Opening Type (ii)	Clear Opening Width ft (mm)	Platform Size		Min. Clear Cab Inside		Hoistway		E in (mm)	J in (mm)	Q in (mm)	R 2SSO Doors in (mm)	S 2SSO Doors in (mm)
				A Width ft (mm)	B Depth ft (mm)	CA Width ft (mm)	CB Depth ft (mm)	C Clear Width ft (mm) (viii)	D Wall to Wall ft (mm)					
4000 (1814)	45'-0" (13.7)	SSSO	4'-0" (1219)	6'-0" (1828)	8'-3" (2515)	5'-8" (1727)	7'-3 1/2" (2222)	7'-4" (2235)	9'-0 1/2" (2756)	3'-4" (1016)	3'-11 3/4" (1213)	8" (203)	2'-5" (737)	11" (279)
4500 (2041)	45'-0" (13.7)	2SSO	4'-0" (1219)	6'-0" (1828)	8'-9" (2667)	5'-8" (1727)	7'-9 1/2" (2375)	7'-4" (2235)	9'-6 1/2" (2908)	3'-6" (1069)	4'-1 3/4" (1263)	8" (203)	2'-5" (737)	11" (279)
5000 (2268)	41'-0" (12.5)	2SSO	4'-0" (1219)	6'-0" (1828)	9'-4 1/2" (2858)	5'-8" (1727)	8'-5" (2565)	7'-4" (2235)	10'-2" (3099)	3'-11" (1194)	4'-6 3/4" (1391)	8" (203)	2'-5" (737)	11" (279)

† Maximum travel based on standard car weight. Heavier cars may reduce maximum allowable travel.
Schindler offers a generous 3/4" floor recess accepting a variety of options from your flooring contractor.

Notes

Dimensions shown are for U.S. applications. For specific requirements in Canada, please consult your local Canadian sales office.

- (i) Maximum travel based on 8'-0" (2439mm) high cab, with overhead and pit dimensions as shown in the table.
- (ii) 2SSO doors available with right or left opening.
- (iii) Hoist beam to be removed by others after elevator installation if minimum cab clearance is not available. Consult your local sales representative for hoist beam requirements.
- (iv) For maximum car guide rail bracket vertical spacing, consult your local sales representative.
- (v) Adequate steel or concrete beam or concrete wall supports are required for car guide rail mounting brackets based on elevator shop drawing loadings at each floor per ASME A17.1 Code and CAN/CSA-B44. Mounting and interface between building support and car rail brackets to be in agreement between customer and elevator contractor.
- (vi) Larger area is required in California or when two or more power units are used for elevators with common machine room.
- (vii) 8'-0" (2439mm) cab height with 7'-0" (2134mm) entrance standard. 9'-0" (2743mm) cab height with 7'-0" (2134mm) entrance or 8'-0" (2439mm) entrance, and 10'-0" (3048mm) cab height with 8'-0" (2439mm) entrance also available.
- (viii) For areas in seismic zone 2 or greater, provide additional 2" (50mm) width.
- (ix) 4000 lb, 4500 lb, and 5000 lb Hospital/Service accommodate a 24" x 84" stretcher.

Minimum Overhead and Pit Requirements

100 fpm (0.5m/s)			125 and 150 fpm (0.6 and 0.8m/s)		
Travel ft (m)	Overhead ft (mm)	Pit ft (mm)	Travel ft (m)	Overhead ft (mm)	Pit ft (mm)
Up to 36'-6" (11.1)	Cab Height + 4'-0" (1219)	4'-0" (1219)	Up to 35'-3" (10.7)	Cab Height + 4'-3" (1295)	4'-0" (1219)
36'-6" (11.1) to 41'-0" (12.5)**	Cab Height + 4'-0" (1219)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 36'-6" (11.1)]*	35'-3" (10.7) to 41'-0" (12.5)**	Cab Height + 4'-3" (1295)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 35'-3" (10.7)]*
36'-6" (11.1) to 45'-0" (13.7)***			35'-3" (10.7) to 45'-0" (13.7)***		

* If additional pit is not available, add this dimension to the overhead. Consult your local sales representative if additional overhead and pit are not available.

** 41'-0" (12.5m) maximum standard travel for 5000lb (2268kg) model. Consult engineering for greater travel.

*** 45'-0" (13.7m) maximum standard travel for 4000lb (1814kg) and 4500lb (2041kg) models. Consult engineering for greater travel.

General Requirements

Requirements for installation vary by type of equipment selected. These general requirements will serve as a guide to assist you in preparing your building for the installation of Schindler elevators.

All designs, clearances, construction, workmanship and materials, unless specifically excepted, is compliant with ASME A17.1-2000, meets or exceeds ASME A17.1, CAN/ CSA-B44, ADA requirements, as well as applicable local and national codes.

Items To Be Provided — To complete the installation, the following items must be considered, which are not included in the elevator contract:

Hoistway

1. Clear, plumb hoistway, with variations on a minimum dimension hoistway not to exceed -0" and +1" (25.4mm) per side at any point. Two-hour fire resistance rating of hoistway walls or rating to meet applicable local codes.
2. 75° bevel guards on all projections, recesses or setbacks over 2" (51mm) (ASME A17.1) or 4" 100mm (CAN/CSA-B44) except on side used for loading or unloading.
3. Number of cars in hoistway, minimum size of cars, venting and fire rating of doors and entrances must be specified per applicable Building Code.
4. Supports for rail brackets at pit, each floor and roof. Maximum allowable vertical spacing of rail supports, without backing. Divider beams between hoistway at each floor and roof, for guide rail bracket supports.
5. Light outlet for each elevator, in center of hoistway, pit and machine room, as indicated by your elevator contractor.
6. Recesses, supports, and patching, as required, to accommodate wall mounted hall button boxes, signal fixtures, etc.
7. All barricades either outside elevator hoistways or between elevators inside hoistways as required.
8. Dry pit reinforced to sustain normal vertical forces from rails, jack units and buffers. Pit to be level and free of debris at jack unit and buffer locations. Consult Schindler sales representative for rail forces, jack loads and buffer impacts. Where space below pit floor can be occupied, consult Schindler sales representative for special requirements.
9. Convenience outlet and light fixture in pit with switch located adjacent to access door per ASME A17.1 Rule 2.2.5 and CAN/CSA-B44 2.7.5.
10. Where access to pit is by means of lowest hoistway entrance, vertical ladder of non-combustible material extending 42" minimum above sill of access door or handgrips shall be provided to the same height.
11. Coordinate sump hole location in pit with Schindler representative to avoid interference with jack unit locations.

Machine Room

12. Enclosed and protected machine room.
13. Access to machine room and machinery space as required by governing code or authority.
14. Lighting, convenience outlets, heating, cooling and ventilation of machine room and machinery space. Machine room temperature to be maintained between 55° F and 90° F (13° C and 32° C). Relative humidity to be maintained at 95% or less non-condensing.
15. A fused disconnect switch for each elevator and light switch located per National Electrical Code, (NFPA No. 70), and where practicable, located inside machine room adjacent to door.
16. Suitable copper feeder, ground and branch wiring circuits for signal system and power operated door, including main line switch. Feeder and branch wiring circuits for car light and fan, including main line switch. Ground fault protection as required by NEC 620-85.

17. Clear access above ceiling, or metal/concrete raceways in floor, for oil line and wiring duct from machine room, if machine room is remote from elevator hoistway.
18. Cutout through machine room wall, 8"x 16" (203mm x 406mm), for oil line and wiring duct. Coordinate with Schindler construction superintendent at building site.
19. Hoisting beams, trap doors, ladders or stairs and other means of access to machine room for maintenance and equipment removal purposes.
20. Convenience outlet and telephone outlet on control panel.
21. All conduit and wire runs remote from either the machine room or the hoistways.
22. Heat, smoke or products of combustion sensing devices connected to elevator machine room terminals when such devices are required. Make contacts on the sensors should be sized for 120 volt D.C.

Emergency Provisions

23. Elevator Firefighter's and other emergency services are required in certain buildings, depending on height of the building or number of landings.
24. Elevator Firefighter's Service is required per ASME A17.1 Rule 2.27.3 and may be required per CAN/CSA-B44 3.12.15.1.1. Elevator Firefighter's Service wiring and interconnections to automatic sprinkler systems or heat and smoke sensing devices furnished by others. Emergency services may be required by Building Code.
25. When emergency/standby power operation of elevators is required, the Electrical Contractor should coordinate with your elevator contractor for operation requirements.
26. Provisions for earthquake protection, dictated by the Building Codes, may be required. Consult your elevator contractor for special requirements.
27. For IBC-2018 or A17.1-2019 jurisdictions, that require the Visual Communication Device in the Elevator Car, an internet connection, one per elevator group, shall be provided by the building. The internet connection shall be a generic network with a regular ISP modem. The internet-connection line shall be an RJ45 ethernet connection cable and shall originate in the Machine Room, and connect to the building internet connection or the local monitoring station if the building provides on-site live staffing. If the building has a Symmetric NAT network, it is recommended that they provide a non-Symmetric NAT portion of their network to connect to the VAM. Additional details on the internet connection can be provided upon request if needed. This internet connection is required to have an un-interrupted power supply for a duration of 4 hours to allow the Visual Communication Device to function if building power is lost.

Entrances

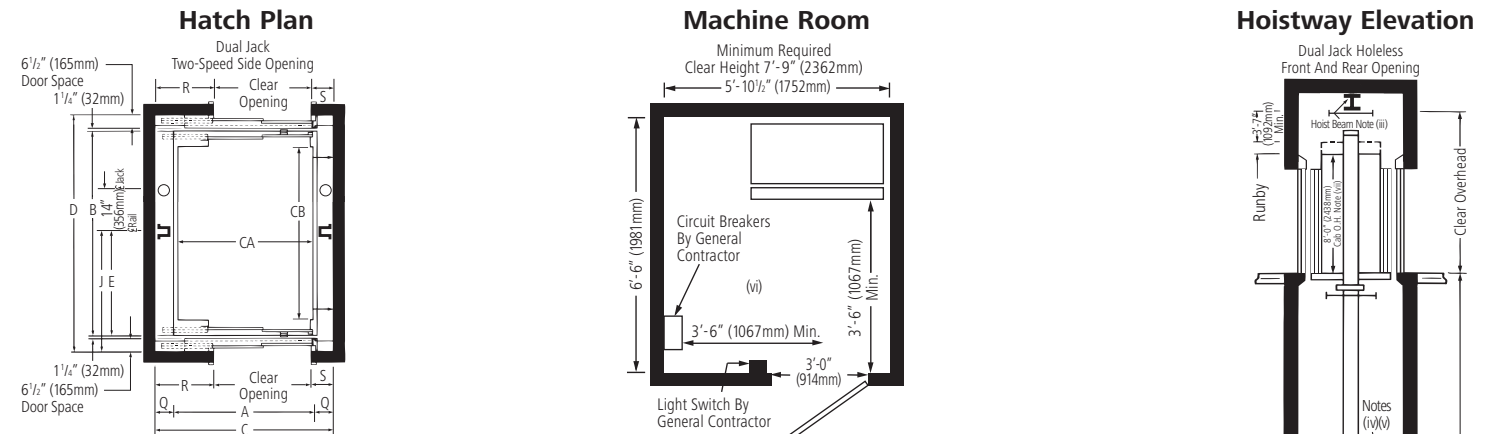
28. Hoistway walls are to have a fire-resistance rating in accordance with ASME A17.1 Rule 2.1.1.1.
29. Furnishing, installing and maintaining the required fire rating of elevator hoistway walls, including the penetration of fire wall by elevator fixture boxes, is not the responsibility of the elevator contractor.
30. The interface of the elevator wall with the hoistway entrance assembly shall be in strict compliance with the elevator contractor's requirements.
31. Entrance wall and finished floor are not to be constructed until after door frames and sills are in place.
 - a. Where front walls are of reinforced concrete, the concrete openings must be minimum 16" (406mm) wide [8" (203mm) on each side] and 8" (203mm) higher than the clear opening (including transom height).
 - b. Where drywall or sheet rock construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with the elevator contractor.
 - c. Door frames are to be anchored to walls and properly grouted in place to maintain legal fire rating (masonry construction).
32. Filling and grouting around entrance.
33. The use of 18 gauge (.048") materials for doors have UL approval.
34. Where openings occur, all walls and sill supports must be plumb.
35. When sill supports are provided by the elevator manufacturer, hoistway should be capable of accepting anchor stud type fasteners.
36. When fluted steel decking is used under concrete flooring, the concrete must be no less than 4 1/2" (119mm) thick; 2" (51mm) thick for sill angle anchors.

Schindler 330A Holeless Hydraulic Elevator

Hospital/Service, Dual Jack, Front/Rear Opening

Standard Speeds: 100, 125, 150 fpm (0.5, 0.6, 0.8 m/s).

Maximum Openings: 6 Front, 4 Rear, 8 Total.



Dimensions

Capacity lb (kg) (ix)	Max. Travel† ft (m) (i)	Opening Type (ii)	Clear Opening Width ft (mm)	Platform Size		Min. Clear Cab Inside		Hoistway		E in (mm)	J in (mm)	Q in (mm)	R 2SSO Doors in (mm)	S 2SSO Doors in (mm)
				A Width ft (mm)	B Depth ft (mm)	CA Width ft (mm)	CB Depth ft (mm)	C Clear Width ft (mm) (viii)	D Wall to Wall ft (mm)					
4000 (1814)	45'-0" (13.7)	2SSO	4'-0" (1219)	6'-0" (1828)	8'-10 1/2" (2705)	5'-8" (1727)	7'-4" (2235)	7'-4" (2235)	10'-2" (3099)	3'-10 1/4" (1174)	4'-6" (1372)	8" (203)	2'-5" (737)	11" (279)
4500 (2041)	45'-0" (13.7)	2SSO	4'-0" (1219)	6'-0" (1828)	9'-4 1/2" (2858)	5'-8" (1727)	7'-10" (2388)	7'-4" (2235)	10'-8" (3251)	4'-1 1/4" (1251)	4'-9" (1448)	8" (203)	2'-5" (737)	11" (279)
5000 (2268)	41'-0" (12.5)	2SSO	4'-0" (1219)	6'-0" (1828)	10'-0" (3048)	5'-8" (1727)	8'-5 1/2" (2578)	7'-4" (2235)	11'-3 1/2" (3442)	4'-3" (1295)	4'-10 3/4" (1492)	8" (203)	2'-5" (737)	11" (279)

† Maximum travel based on standard car weight. Heavier cars may reduce maximum allowable travel.
Schindler offers a generous 3/4" floor recess accepting a variety of options from your flooring contractor.

Notes

Dimensions shown are for U.S. applications. For specific requirements in Canada, please consult your local Canadian sales office.

- (i) Maximum travel based on 8'-0" (2439mm) high cab, with overhead and pit dimensions as shown in the table.
- (ii) 2SSO doors available with right or left opening.
- (iii) Hoist beam to be removed by others after elevator installation if minimum cab clearance is not available. Consult your local sales representative for hoist beam requirements.
- (iv) For maximum car guide rail bracket vertical spacing, consult your local sales representative.
- (v) Adequate steel or concrete beam or concrete wall supports are required for car guide rail mounting brackets based on elevator shop drawing loadings at each floor per ASME A17.1 Code and CAN/CSA-B44. Mounting and interface between building support and car rail brackets to be in agreement between customer and elevator contractor.
- (vi) Larger area is required in California or when two or more power units are used for elevators with common machine room.
- (vii) 8'-0" (2439mm) cab height with 7'-0" (2134mm) entrance standard. 9'-0" (2743mm) cab height with 7'-0" (2134mm) entrance or 8'-0" (2439mm) entrance, and 10'-0" (3048mm) cab height with 8'-0" (2439mm) entrance also available.
- (viii) For areas in seismic zone 2 or greater, provide additional 2" (50mm) width.
- (ix) 4000 lb, 4500 lb, and 5000 lb Hospital/Service accommodate a 24" x 84" stretcher.

Minimum Overhead and Pit Requirements

100 fpm (0.5m/s)			125 and 150 fpm (0.6 and 0.8m/s)		
Travel ft (m)	Overhead ft (mm)	Pit ft (mm)	Travel ft (m)	Overhead ft (mm)	Pit ft (mm)
Up to 36'-6" (11.1)	Cab Height + 4'-0" (1219)	4'-0" (1219)	Up to 35'-3" (10.7)	Cab Height + 4'-3" (1295)	4'-0" (1219)
36'-6" (11.1) to 41'-0" (12.5)**	Cab Height + 4'-0" (1219)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 36'-6" (11.1)]*	35'-3" (10.7) to 41'-0" (12.5)**	Cab Height + 4'-3" (1295)	4'-0" (1219) [+ 4" (102) for every 1' (305) of travel above 35'-3" (10.7)]*
36'-6" (11.1) to 45'-0" (13.7)***			35'-3" (10.7) to 45'-0" (13.7)***		

* If additional pit is not available, add this dimension to the overhead. Consult your local sales representative if additional overhead and pit are not available.

** 41'-0" (12.5m) maximum standard travel for 5000lb (2268kg) model. Consult engineering for greater travel.

*** 45'-0" (13.7m) maximum standard travel for 4000lb (1814kg) and 4500lb (2041kg) models. Consult engineering for greater travel.

General Requirements

Requirements for installation vary by type of equipment selected. These general requirements will serve as a guide to assist you in preparing your building for the installation of Schindler elevators.

All designs, clearances, construction, workmanship and materials, unless specifically excepted, is compliant with ASME A17.1-2000, meets or exceeds ASME A17.1, CAN/CSA-B44, ADA requirements, as well as applicable local and national codes.

Items To Be Provided — To complete the installation, the following items must be considered, which are not included in the elevator contract:

Hoistway

1. Clear, plumb hoistway, with variations on a minimum dimension hoistway not to exceed -0" and +1" (25.4mm) per side at any point. Two-hour fire resistance rating of hoistway walls or rating to meet applicable local codes.
2. 75° bevel guards on all projections, recesses or setbacks over 2" (51mm) (ASME A17.1) or 4" 100mm (CAN/CSA-B44) except on side used for loading or unloading.
3. Number of cars in hoistway, minimum size of cars, venting and fire rating of doors and entrances must be specified per applicable Building Code.
4. Supports for rail brackets at pit, each floor and roof. Maximum allowable vertical spacing of rail supports, without backing. Divider beams between hoistway at each floor and roof, for guide rail bracket supports.
5. Light outlet for each elevator, in center of hoistway, pit and machine room, as indicated by your elevator contractor.
6. Recesses, supports, and patching, as required, to accommodate wall mounted hall button boxes, signal fixtures, etc.
7. All barricades either outside elevator hoistways or between elevators inside hoistways as required.
8. Dry pit reinforced to sustain normal vertical forces from rails, jack units and buffers. Pit to be level and free of debris at jack unit and buffer locations. Consult Schindler sales representative for rail forces, jack loads and buffer impacts. Where space below pit floor can be occupied, consult Schindler sales representative for special requirements.
9. Convenience outlet and light fixture in pit with switch located adjacent to access door per ASME A17.1 Rule 2.2.5 and CAN/CSA-B44 2.7.5.
10. Where access to pit is by means of lowest hoistway entrance, vertical ladder of non-combustible material extending 42" minimum above sill of access door or handgrips shall be provided to the same height.
11. Coordinate sump hole location in pit with Schindler representative to avoid interference with jack unit locations.

Machine Room

12. Enclosed and protected machine room.
13. Access to machine room and machinery space as required by governing code or authority.
14. Lighting, convenience outlets, heating, cooling and ventilation of machine room and machinery space. Machine room temperature to be maintained between 55° F and 90° F (13° C and 32° C). Relative humidity to be maintained at 95% or less non-condensing.
15. A fused disconnect switch for each elevator and light switch located per National Electrical Code, (NFPA No. 70), and where practicable, located inside machine room adjacent to door.
16. Suitable copper feeder, ground and branch wiring circuits for signal system and power operated door, including main line switch. Feeder and branch wiring circuits for car light and fan, including main line switch. Ground fault protection as required by NEC 620-85.

17. Clear access above ceiling, or metal/concrete raceways in floor, for oil line and wiring duct from machine room, if machine room is remote from elevator hoistway.
18. Cutout through machine room wall, 8"x 16" (203mm x 406mm), for oil line and wiring duct. Coordinate with Schindler construction superintendent at building site.
19. Hoisting beams, trap doors, ladders or stairs and other means of access to machine room for maintenance and equipment removal purposes.
20. Convenience outlet and telephone outlet on control panel.
21. All conduit and wire runs remote from either the machine room or the hoistways.
22. Heat, smoke or products of combustion sensing devices connected to elevator machine room terminals when such devices are required. Make contacts on the sensors should be sized for 120 volt D.C.

Emergency Provisions

23. Elevator Firefighter's and other emergency services are required in certain buildings, depending on height of the building or number of landings.
24. Elevator Firefighter's Service is required per ASME A17.1 Rule 2.27.3 and may be required per CAN/CSA-B44 3.12.15.1.1. Elevator Firefighter's Service wiring and interconnections to automatic sprinkler systems or heat and smoke sensing devices furnished by others. Emergency services may be required by Building Code.
25. When emergency/standby power operation of elevators is required, the Electrical Contractor should coordinate with your elevator contractor for operation requirements.
26. Provisions for earthquake protection, dictated by the Building Codes, may be required. Consult your elevator contractor for special requirements.
27. For IBC-2018 or A17.1-2019 jurisdictions, that require the Visual Communication Device in the Elevator Car, an internet connection, one per elevator group, shall be provided by the building. The internet connection shall be a generic network with a regular ISP modem. The internet-connection line shall be an RJ45 ethernet connection cable and shall originate in the Machine Room, and connect to the building internet connection or the local monitoring station if the building provides on-site live staffing. If the building has a Symmetric NAT network, it is recommended that they provide a non-Symmetric NAT portion of their network to connect to the VAM. Additional details on the internet connection can be provided upon request if needed. This internet connection is required to have an un-interrupted power supply for a duration of 4 hours to allow the Visual Communication Device to function if building power is lost.

Entrances

28. Hoistway walls are to have a fire-resistance rating in accordance with ASME A17.1 Rule 2.1.1.1.
29. Furnishing, installing and maintaining the required fire rating of elevator hoistway walls, including the penetration of fire wall by elevator fixture boxes, is not the responsibility of the elevator contractor.
30. The interface of the elevator wall with the hoistway entrance assembly shall be in strict compliance with the elevator contractor's requirements.
31. Entrance wall and finished floor are not to be constructed until after door frames and sills are in place.
 - a. Where front walls are of reinforced concrete, the concrete openings must be minimum 16" (406mm) wide [8" (203mm) on each side] and 8" (203mm) higher than the clear opening (including transom height).
 - b. Where drywall or sheet rock construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with the elevator contractor.
 - c. Door frames are to be anchored to walls and properly grouted in place to maintain legal fire rating (masonry construction).
32. Filling and grouting around entrance.
33. The use of 18 gauge (.048") materials for doors have UL approval.
34. Where openings occur, all walls and sill supports must be plumb.
35. When sill supports are provided by the elevator manufacturer, hoistway should be capable of accepting anchor stud type fasteners.
36. When fluted steel decking is used under concrete flooring, the concrete must be no less than 4 1/2" (119mm) thick; 2" (51mm) thick for sill angle anchors.



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