

MEANS OF VERTICAL CIRCULATION

ELEVATORS TRACTION VERSE HYDRAULIC TYPES, SIZES, SPEEDS AND FINISHES, ESCALATORS

BY ALONDRA RAMOS, DEVIN SAMAROO, LUIS RAMIREZ

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TABLE OF CONTENTS

ELEVATOR TYPES

ACCORDING TO HOIST MECHANISM.

ACCORDING TO BUILDING HEIGHT.

ACCORDING TO BUILDING TYPE

SPEEDS

SIZES

FINISHES

ESCALATORS

ESCALATORS GENERAL DESIGN CONSIDERATIONS

SMOKE CURTAINS

RESOURCES



ELEVATORS

ELEVATORS ARE GENERALLY POWERED BY ELECTRIC MOTORS THAT EITHER DRIVE TRACTION CABLES OR COUNTERWEIGHT SYSTEMS LIKE A HOIST, OR PUMP HYDRAULIC FLUID TO RAISE A CYLINDRICAL PISTON

ELEVATOR TYPES

ELEVATORS

ACCORDING TO
HOIST MECHANISM

ELEVATORS

ACCORDING TO
BUILDING HEIGHT

ELEVATORS

ACCORDING TO
BUILDING TYPE

ELEVATOR TYPES

ACCORDING TO HOIST MECHANISM

HYDRAULIC ELEVATORS

THEY ARE SUPPORTED BY A PISTON AT THE BOTTOM OF THE ELEVATOR THAT PUSHES THE ELEVATOR UP. THE MACHINE ROOM FOR HYDRAULIC ELEVATORS IS LOCATED AT THE LOWEST LEVEL ADJACENT TO THE ELEVATOR SHAFT. HYDRAULIC ELEVATORS HAVE TWO MAIN TYPES:

HYDRAULIC

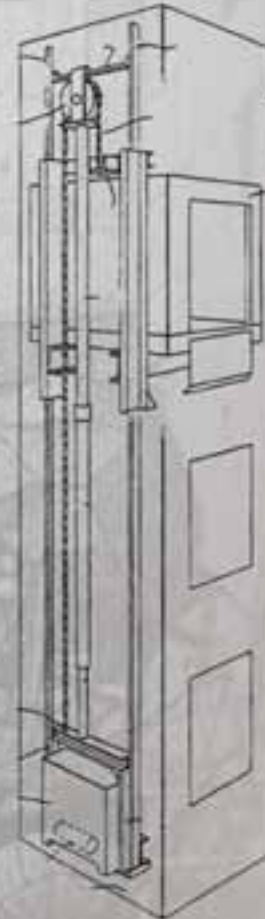
CONVENTIONAL

HOLE-LESS



HYDRAULIC ELEVATORS CONVENTIONAL

HAVE A SHEAVE THAT EXTENDS BELOW THE FLOOR OF THE ELEVATOR PIT, WHICH ACCEPTS THE RETRACTING PISTON AS THE ELEVATOR DESCENDS.



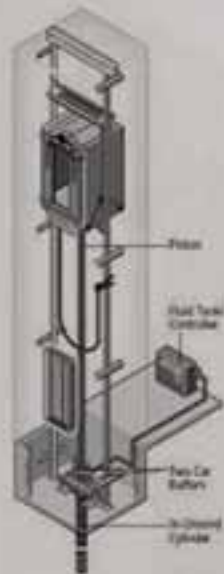
ELEVATOR TYPES

ACCORDING TO HOIST MECHANISM

HYDRAULIC ELEVATORS HOLE-LESS

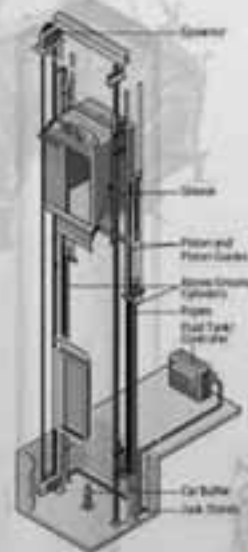
HAVE A PISTON ON EITHER SIDE OF THE CAB. IT CAN BE DIVIDED AS FOLLOW

CONVENTIONAL



Holed (Conventional) Hydraulic Elevators

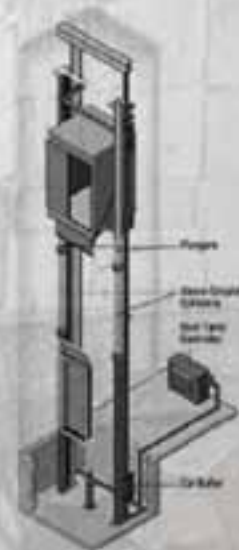
ROPED



Roped Hydraulic Elevators

USE A COMBINATION OF ROPES AND A PISTON TO MOVE THE ELEVATOR.

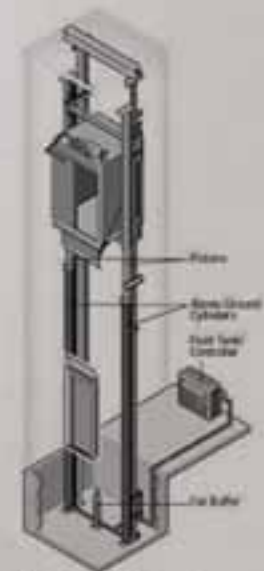
TELESCOPIC



Telescopic Hydraulic Elevators

THE TELESCOPING PISTONS ARE FIXED AT THE BASE OF THE PIT AND DO NOT REQUIRE A SHEAVE OR HOLE BELOW THE PIT AND HAS 2 OR 3 PIECES OF TELESCOPING PISTONS.

NON-TELESCOPING



Non-telescoping (single stage) Hydraulic Elevators

HAS ONE PISTON

BY ALONDRA RAMOS, DEVIN SAMARDO, LUIS RAMIREZ

CLIMBING ELEVATOR

ACCORDING TO HOIST MECHANISM

THEY HOLD THEIR OWN POWER DEVICE ON THEM, MOSTLY ELECTRIC OR COMBUSTION ENGINE. CLIMBING ELEVATORS ARE OFTEN USED IN WORK AND CONSTRUCTION AREAS.



PNEUMATIC ELEVATOR

ACCORDING TO HOIST MECHANISM

ARE RAISED AND LOWERED BY CONTROLLING AIR PRESSURE IN A CHAMBER IN WHICH THE ELEVATOR SITS. BY SIMPLE PRINCIPLES OF PHYSICS; THE DIFFERENCE IN AIR PRESSURE ABOVE AND BENEATH THE VACUUM ELEVATOR CAB LITERALLY TRANSPORTS CAB BY AIR. IT IS THE VACUUM PUMPS OR TURBINES THAT PULL CAB UP TO HE NEXT FLOOR AND THE SLOW RELEASE OF AIR PRESSURE THAT FLOATS CAB DOWN. THEY ARE ESPECIALLY IDEAL FOR EXISTING HOMES DUE TO THEIR COMPACT DESIGN BECAUSE EXCAVATING A PIT AND HOIST WAY ARE NOT REQUIRED.



TRACTION ELEVATORS

PULL ELEVATORS

TRACTION ELEVATORS ARE LIFTED BY ROPES, WHICH PASS OVER A WHEEL ATTACHED TO AN ELECTRIC MOTOR ABOVE THE ELEVATOR SHAFT. THEY ARE USED FOR MID AND HIGH-RISE APPLICATIONS AND HAVE MUCH HIGHER TRAVEL SPEEDS THAN HYDRAULIC ELEVATORS. A COUNTER WEIGHT MAKES THE ELEVATORS MORE EFFICIENT. TRACTION ELEVATORS HAVE 3 MAIN TYPES

GEARED TRACTION ELEVATORS

HAVE A GEARBOX THAT IS ATTACHED TO MOTOR, WHICH DRIVES THE WHEEL THAT MOVES THE ROPES.



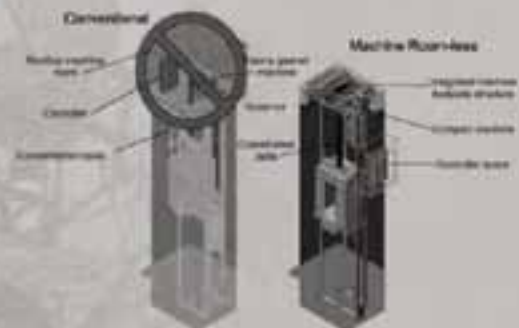
GEAR-LESS TRACTION ELEVATORS

HAVE THE WHEELS ATTACHED DIRECTLY TO THE MOTOR, WHICH DRIVES TO THE MOTOR.



MACHINE-ROOM-LESS ELEVATORS

ARE TYPICALLY TRACTION ELEVATORS THAT DO NOT HAVE A DEDICATED MACHINE ROOM ABOVE THE ELEVATOR SHAFT. THE MACHINE SITS IN THE OVERRIDE SPACE AND THE CONTROLS IT ABOVE THE CEILING ADJACENT TO THE ELEVATOR SHAFT. MACHINE-ROOM-LESS ELEVATORS ARE BECOMING MORE COMMON; HOWEVER, MANY MAINTENANCE DEPARTMENTS DO NOT LIKE THEM DUE TO THE HASSLE OF WORKING ON A LADDER AS OPPOSED TO WITHIN A ROOM.



TRACTION ELEVATORS

THE ELEVATOR CAB IN TRACTION ELEVATORS IS LIFTED WITH CABLES, USING WEIGHTS TO COUNTERBALANCE THE WEIGHT OF THE CAB WITH THE RIDERS.

EXPENSIVE-SAME ELEVATOR WOULD COST 60,000 W/ YEARLY MAINTENANCE OF 2,400

LESS SPACE

MORE ENERGY EFFICIENT-IT USES LESS ENERGY BECAUSE THE MOTOR IS ONLY USED TO OVERCOME FRICTION - THERE IS NO LIFTING INVOLVED BECAUSE OF THE COUNTERWEIGHT SYSTEM. THE ONLY TIME THE MOTOR IS USED IN TRACTION ELEVATORS TO LIFT THE CAB IS WHEN THE COUNTERWEIGHT IS NOT EVEN WITH THE CAB WEIGHT.

NEARLY UNLIMITED FLOOR TRAVEL IS POSSIBLE

SIGNIFICANTLY HIGHER SPEEDS

THERE ARE STRUCTURAL BUILDING CONSIDERATIONS BECAUSE THE ELEVATOR IS SUPPORTED BY THE TOP OF THE HOISTWAY.

HYDRAULIC ELEVATORS

THE ELEVATORS USE A PUMP SYSTEM TO PUSH A CYLINDER OF FLUID ON A PISTON, LIFTING THE CAB.

LESS EXPENSIVE- A SINGLE 3-STOP HYDRAULIC PASSANGER CAN COST 30,000 W/ YEARLY MAINTENANCE OF 1,200

REQUIRES LARGE SPACE UNDERNEATH THE BUILDING FOR EQUIPMENT

USES 30 TIMES FOR ELECTRICITY-ENERGY USED TO LIFT THE ELEVATOR DOES NOT GET RECOVERED ON THE TRIP GOING DOWN, IT IS COMPLETELY LOST; THIS IS BECAUSE HYDRAULIC ELEVATORS DO NOT USE A COUNTERWEIGHT SYSTEM.

CAN TRAVEL UP TO 60 FEET

CANNOT EXCEED SPEEDS UP TO 150 FEET PER MIN.

SINCE IT IMPOSES NO VERTICAL LOADS ON THE BUILDING STRUCTURE, COLUMN SIZES CAN BE REDUCED SIGNIFICANTLY IN HOISTWAY AREA

HYDRAULIC ELEVATOR

USES

GOOD APPLICATION EXAMPLES

- TWO, THREE AND FOUR FLOOR OFFICE BUILDINGS WITH NET LEASABLE SPACE P TO 100,00 SQ. FT.
- TWO, THREE, FOUR AND FIVE- FLOOR APT. BUILDINGS UP TO THREE FLOORS
- SMALL HOSPITALS, CLINICS AND MEDICAL BUILDINGS UP TO THREE FLOORS
- LOW-RISE INDUSTRIAL BUILDINGS REQUIRING FREIGHT OR AUTOMATED MATERIAL ELEVATORS OR FROM 1000 TO 125000 POUND CAPACITIES
- GOVERNMENT OFFICE BUILDINGS UP TO FOUR FLOORS AND 150000 NET SQ. FT
- BASEMENT OR GARAGE SHUTTLE ELVATORS IN MAJOR BUILDINGS
- PASSENGER/SERVICE ELEVATORS IN MALLS
- STAGE LIFTS
- HANDICAPPED ELEVATORS SUPPLEMENTING ESCALATORS

POOR APPLICATION EXAMPLES

- MOST DEPARTMENT STORES
- HOSPITALS OVER FOUR FLOORS
- STRUCTURES REQUIRING OVER 45 FT. OF ELEVATOR TRAVEL
- STRUCTURES WHERE HOLE DRILLING HAS OBVIOUS HIGH RISKS
- BUILDINGS WHERE POWER COSTS ARE VERY HIGH, OR WHERE POWER SUPPLY IS LIMITED
- BUILDINGS WHERE CONTINUOUS AND SEVERE DEMANDS FOR ELEVATOR SERVICE WILL EXIST

SAFETY SYSTEMS

ELEVATORS

HYDRAULIC ELEVATORS

THEY HOLD THEIR OWN POWER DEVICE ON THEM, MOSTLY ELECTRIC OR COMBUSTION ENGINE. CLIMBING ELEVATORS ARE OFTEN USED IN WORK AND CONSTRUCTION AREAS.

TRACTION ELEVATORS

EACH ELEVATOR ROPE IS MADE FROM SEVERAL LENGTHS OF STEEL MATERIAL WOUND AROUND ONE ANOTHER. WITH THIS STURDY STRUCTURE, ONE ROPE CAN SUPPORT THE WEIGHT OF THE ELEVATOR CAR AND THE COUNTERWEIGHT ON ITS OWN. BUT ELEVATORS ARE BUILT WITH MULTIPLE ROPES (BETWEEN FOUR AND EIGHT, TYPICALLY). IN THE UNLIKELY EVENT THAT ONE OF THE ROPES SNAPS, THE REST WILL HOLD THE ELEVATOR UP.

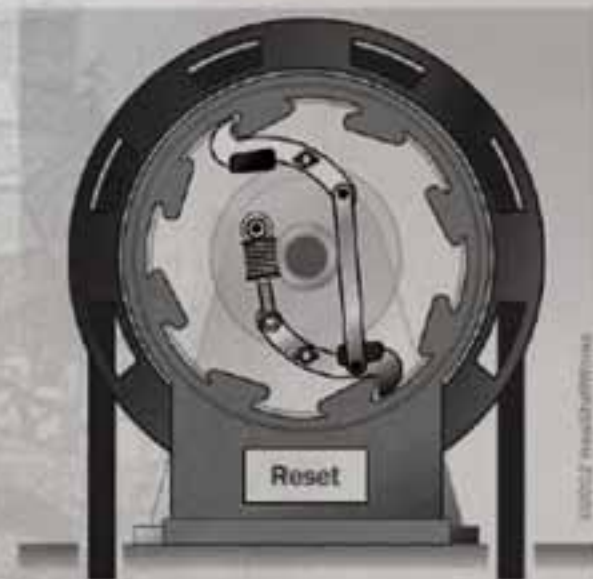
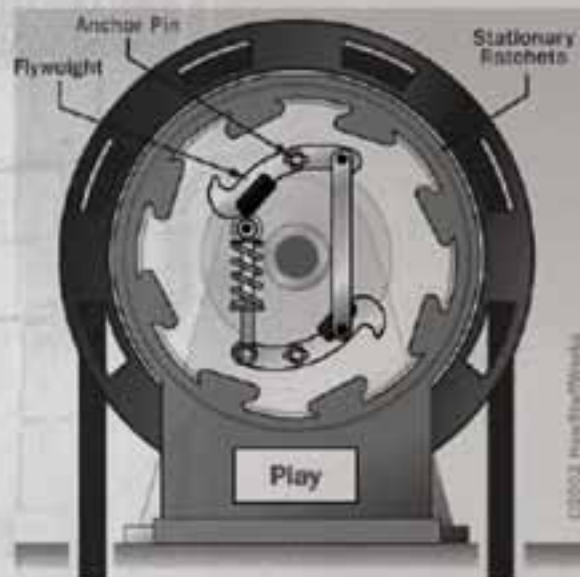
ROPED ELEVATORS

ROPED ELEVATOR CARS HAVE BUILT-IN BRAKING SYSTEMS, OR SAFETIES, THAT GRAB ONTO THE RAIL WHEN THE CAR MOVES TOO FAST

SAFETY
BACKUPS
ELECTROMAGNETIC
BRAKES

SAFETY
BACKUPS
SHOCK ABSORBER
SYSTEM

SAFETY
BACKUPS
THE GOVERNOR
SYSTEM



ELEVATOR TYPES

ACCORDING TO BUILDING HEIGHT

MID-RISE BUILDINGS

(4 -11 STORIES)

BUILDINGS UP TO ABOUT (4 TO 11)
STORIES TYPICALLY USE GEARED
TRACTION ELEVATORS



ELEVATOR TYPES

ACCORDING TO BUILDING TYPE

ELEVATORS WILL BE CLASSIFIED ACCORDING TO BUILDING TYPE. 6

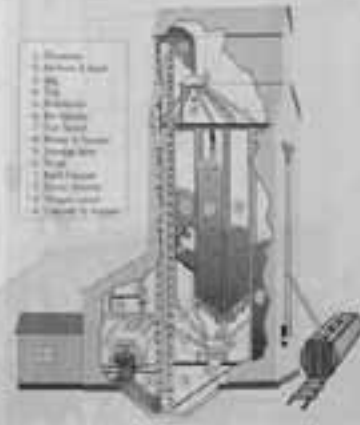
MAIN TYPES ARE:

HOSPITAL ELEVATORS	RESIDENTIAL/ DOMESTIC	AGRICULTURAL
HOSPITAL STRETCH LIFT	PASSENGER ELEVATORS	BUCKET
HOSPITAL BED	STAIRWAY VERTICAL WHEELCHAIR	CENTRIFUGAL DISCHARGE
	WHEELCHAIR ELEVATORS ON AN INCLINE	VERTICAL BUCKET
	DUMBWAITERS	
INDUSTRIAL	COMMERCIAL	PARKING
HOIST	COMMERCIAL PASSENGER	PASSENGER CONVEN- TIONAL PARKING
INCLINE	FREIGHT	AUTO CAR PARKING
	COMMERCIAL DUMB- WAITER	

ELEVATOR TYPES

ACCORDING TO SPECIAL USES

LIMITED USE
LIMITED APPLICATION
ELEVATORS



HANDICAP
ELEVATORS

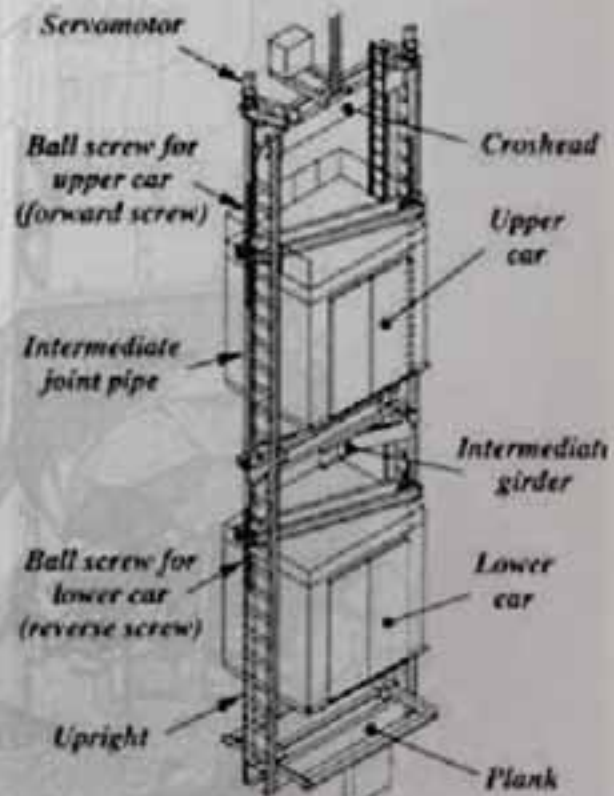
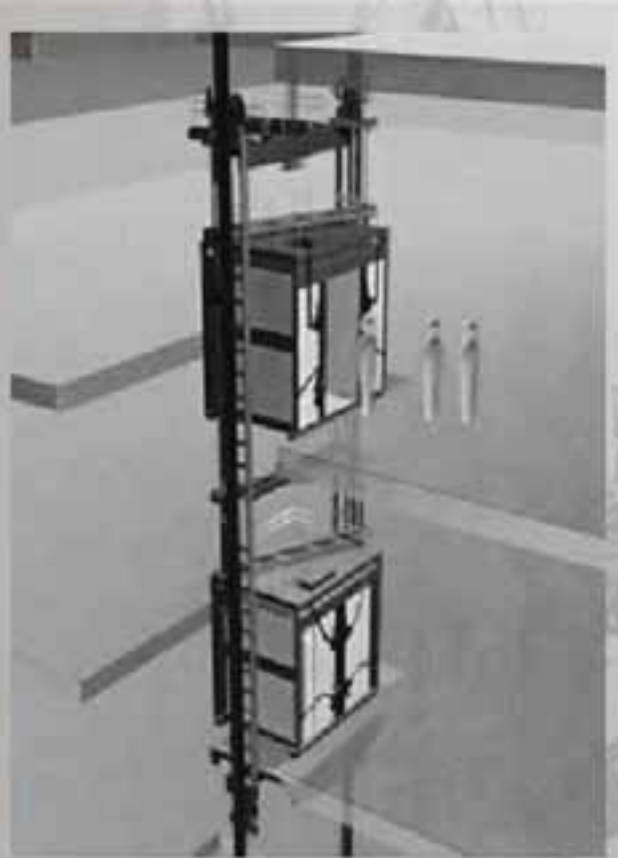


STANDARD GRAIN
ELEVATORS



DOUBLE-DECK ELEVATORS

SAVE TIME AND SPACE IN HIGH-OCCUPANCY BUILDINGS BY MOUNTING ONE CAR UPON ANOTHER. ONE CAR STOPS AT EVEN FLOORS AND THE OTHER STOPS AT THE ODD FLOORS. DEPENDING ON THEIR DESTINATION, PASSENGERS CAN MOUNT ONE CAR IN THE LOBBY OR TAKE AN ESCALATOR TO A LANDING FOR THE ALTERNATE CAR.



SKY LOBBY

WORLD TRADE CENTER

THESE LARGE EXPRESS ELEVATORS WOULD BRING YOU TO A SKY LOBBY OR TRANSACTION FLOOR WHERE YOU BOARD ANOTHER ELEVATOR TO GET TO YOUR DESTINATION. THIS PRACTICE IS BECOMING MORE COMMON BECAUSE IT IS VERY EFFICIENT AND SAVES SPACE.



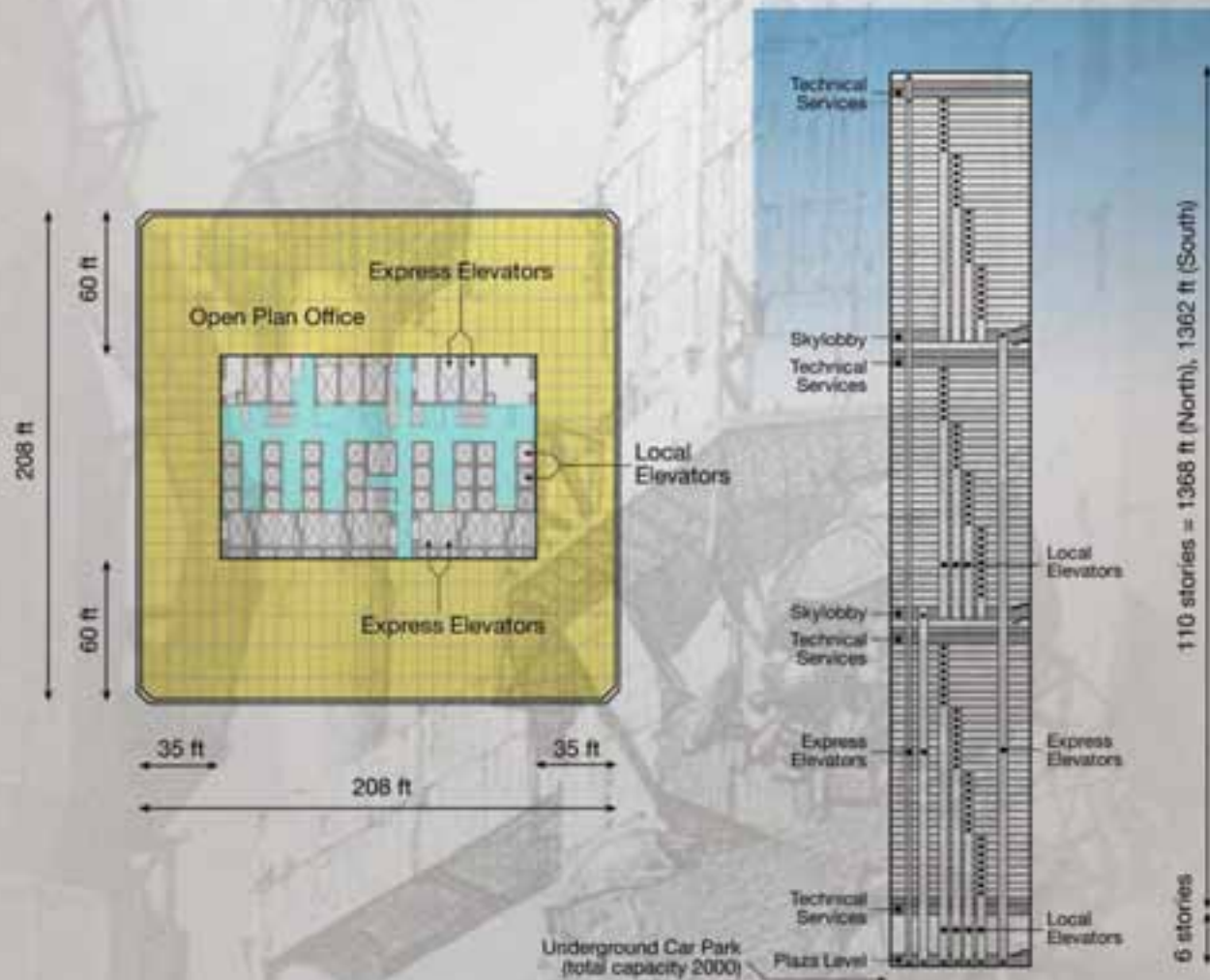
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SKY LOBBY

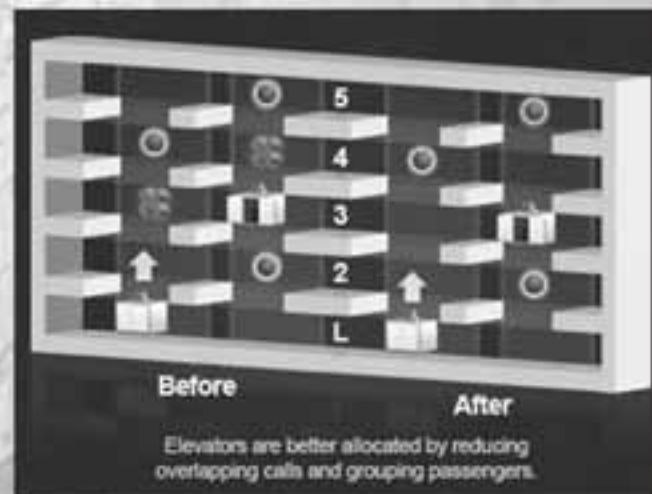
WORLD TRADE CENTER

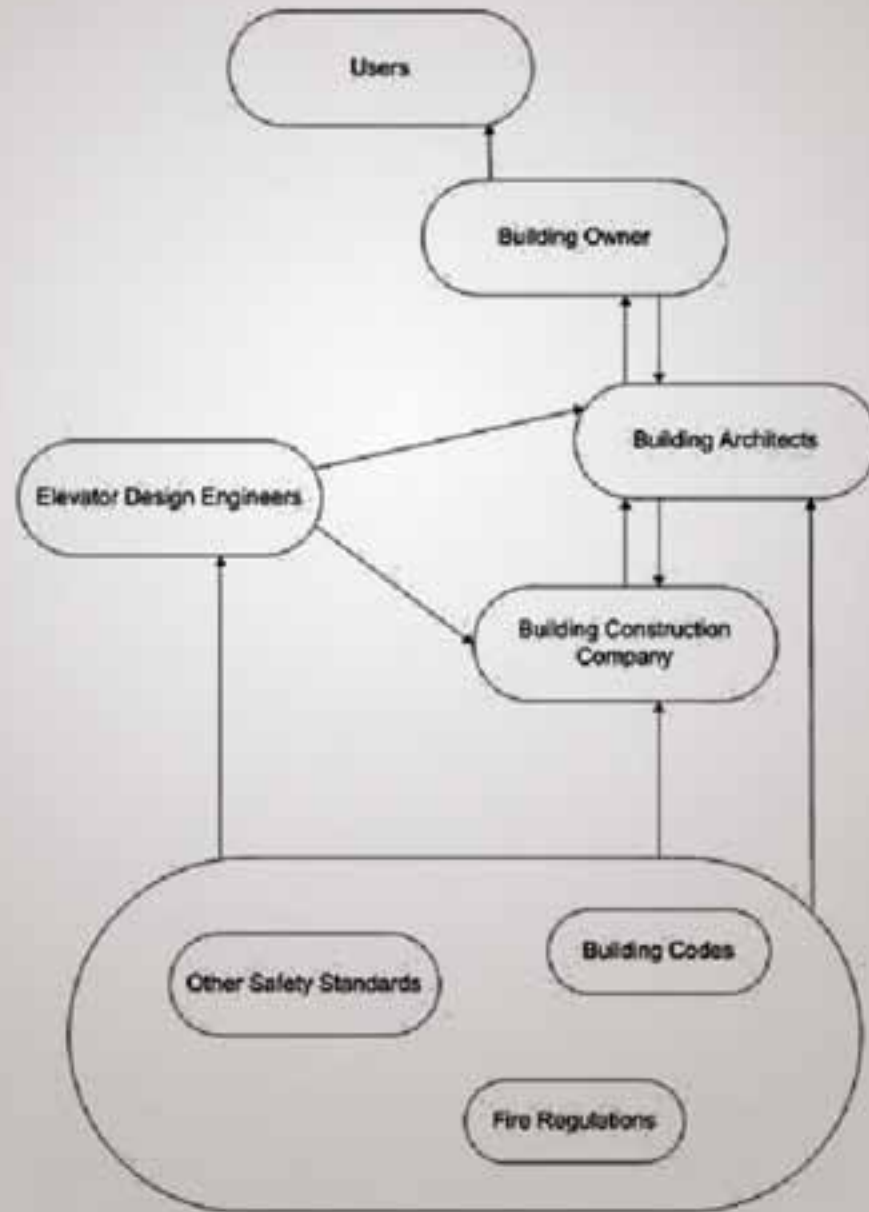
ALTOGETHER, THE WORLD TRADE CENTER HAD 95 EXPRESS AND LOCAL ELEVATORS. THIS SYSTEM WAS INSPIRED BY THE NEW YORK CITY SUBWAY SYSTEM, WHOSE LINES INCLUDE LOCAL STATIONS WHERE LOCAL TRAINS STOP AND EXPRESS STATIONS WHERE ALL TRAINS STOP.

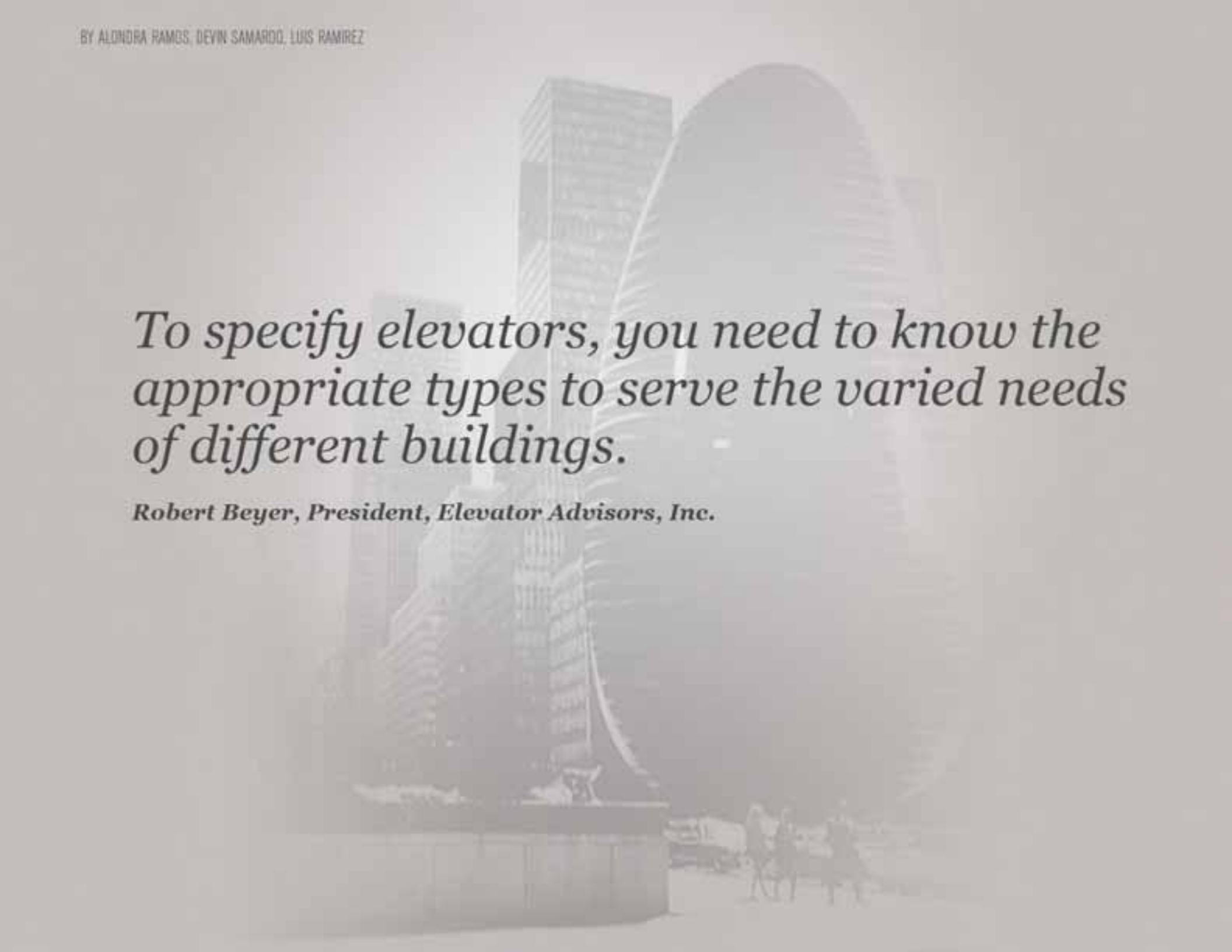


COMPUTERIZED ELEVATORS

- WHERE PEOPLE WANT TO GO / WHERE EACH FLOOR IS / WHERE THE ELEVATOR CAR IS
- SOME TAKE PASSENGER TRAFFIC PATTERNS INTO ACCOUNT. THEY KNOW THE HIGHEST DEMAND, AT WHAT TIME OF DAY, AND DIRECT THE ELEVATOR CARS ACCORDINGLY.
- PEOPLE CAN ENTER A REQUEST FOR A SPECIFIC FLOOR. BASED ON THE LOCATION AND COURSE OF ALL THE CARS, THE COMPUTER TELLS THE PASSEN-







To specify elevators, you need to know the appropriate types to serve the varied needs of different buildings.

Robert Beyer, President, Elevator Advisors, Inc.

HYDRAULIC ELEVATOR

SPEEDS

THE REQUIRED SPEED WILL AFFECT THE TYPE OF EQUIPMENT SELECTED. THE TALLER THE BUILDING, THE HIGHER THE SPEED NEEDED AND ALSO THE HIGHER THE COST. SUGGESTED SPEED RANGES ARE:

HYDRAULIC ELEVATOR

SPEED



3

FLOORS
OR LESS

100 FEET/MINUTE

HYDRAULIC ELEVATOR

SPEED



6

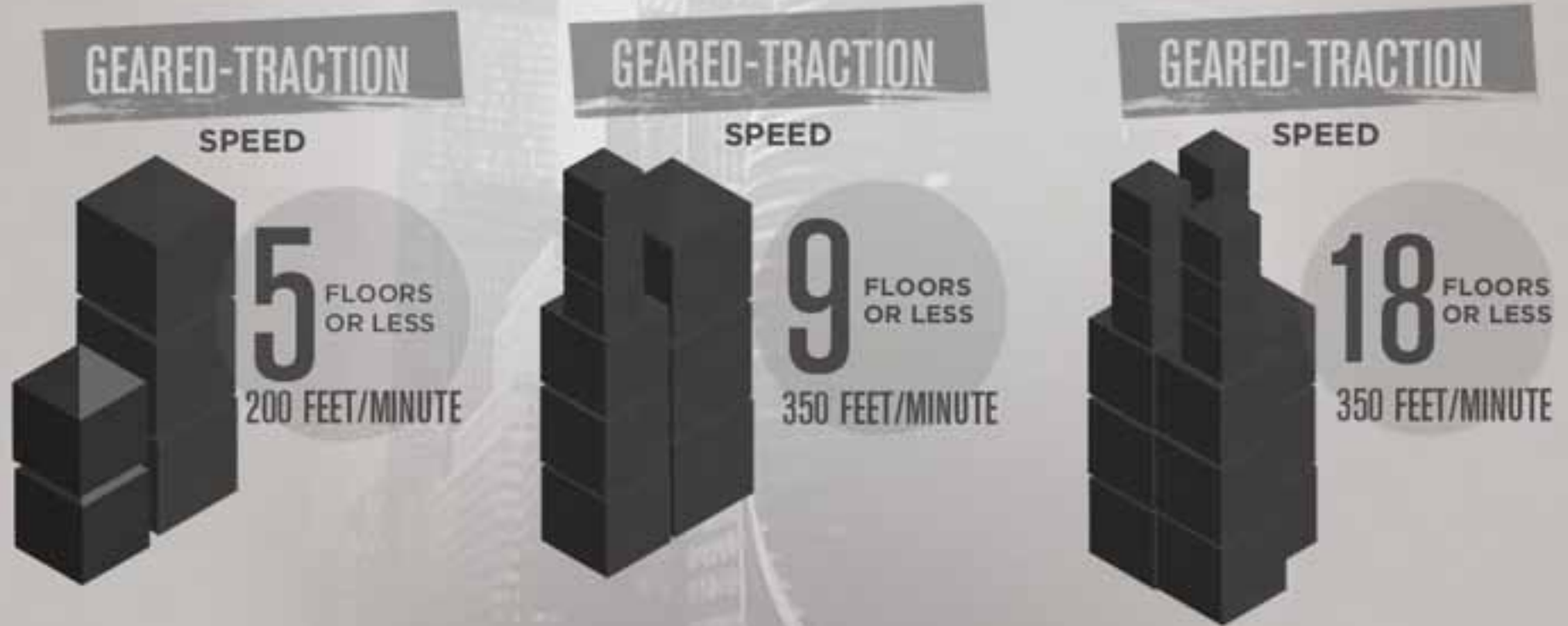
FLOORS
OR LESS

150 FEET/MINUTE

GEARED-TRACTION ELEVATOR

SPEEDS

THE REQUIRED SPEED WILL AFFECT THE TYPE OF EQUIPMENT SELECTED. THE TALLER THE BUILDING, THE HIGHER THE SPEED NEEDED AND ALSO THE HIGHER THE COST. SUGGESTED SPEED RANGES ARE:



GEARLESS-TRACTION ELEVATOR

SPEEDS

THE REQUIRED SPEED WILL AFFECT THE TYPE OF EQUIPMENT SELECTED. THE TALLER THE BUILDING, THE HIGHER THE SPEED NEEDED AND ALSO THE HIGHER THE COST. SUGGESTED SPEED RANGES ARE:

GEARED-TRACTION

SPEED



15 FLOORS
OR LESS
500 FEET/MINUTE

GEARED-TRACTION

SPEED



15-25 FLOORS
700 FEET/MINUTE

GEARED-TRACTION

SPEED



25+ FLOORS
1000 FEET/MINUTE

ELEVATOR SIZES

THE FOLLOWING ARE SUGGESTED INSIDE DIMENSIONS AND RATED CAPACITIES:

OFFICE BUILDINGS:

6 FEET 8 INCHES WIDE BY 5 FEET 5 INCHES DEEP; 3,500 POUNDS.

APARTMENT BUILDINGS:

6 FEET 8 INCHES WIDE BY 4 FEET 3 INCHES DEEP; 2,500 POUNDS

HOTELS/MOTELS:

6 FEET 8 INCHES WIDE BY 5 FEET 5 INCHES DEEP; 3,500 POUNDS.

SERVICE ELEVATORS:

5 FEET 4 INCHES WIDE BY 8 FEET 5 INCHES DEEP; 4,500 POUNDS.

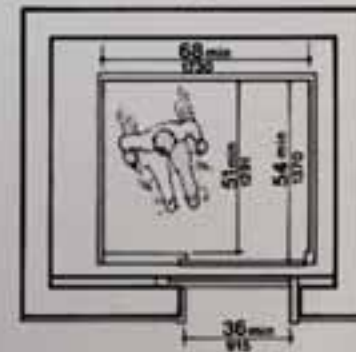
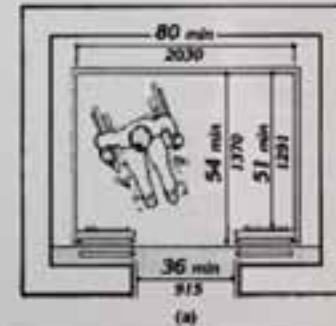
HOSPITAL PASSENGER ELEVATORS:

6 FEET 8 INCHES WIDE BY 5 FEET 5 INCHES DEEP; 3,500 POUNDS.

HOSPITAL VEHICLE ELEVATORS:

5 FEET 9 INCHES WIDE BY 10 FEET DEEP; 6,000 POUNDS.

MINIMUM ELEVATOR SIZES TO COMPLY WITH THE AMERICA DISABILITY ACT



ELEVATOR FINISHES

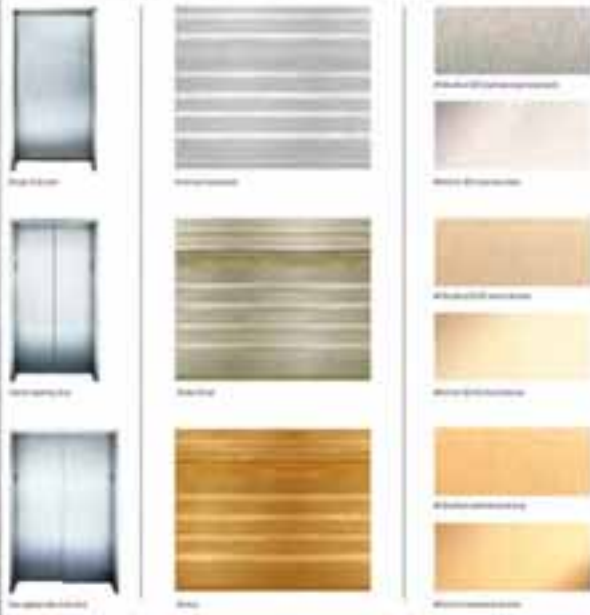
FROM CONTROLS AND MACHINES TO CABS AND FIXTURES, TO SOPHISTICATED CABS, ENTRANCES AND FINISHES. SOME COMPANIES PROVIDE SOLUTIONS THAT OFFER SMOOTHER RIDE QUALITY, AND FASTER FLOOR-TO-FLOOR TIMES



1 1/2" Metal Stainless Steel Standard



3/4" x 2" Solid Stainless Steel



Control - Standard
This panel is designed for standard applications and is available in a variety of finishes and colors. It features a clear display and a numeric keypad.

Panel - Modern Office
This panel is designed for modern office environments and features a sleek, minimalist design with a large display and touch-sensitive controls.

Panel - Premium Office
This panel is designed for premium office environments and features a high-quality finish and a large display with touch-sensitive controls.

Panel - Fully Integrated Control
This panel is designed for fully integrated control systems and features a large display and touch-sensitive controls.

UNIT TYPE	MODEL	FINISH	UNIT TYPE	DESCRIPTION	MATERIAL	AVAILABLE UNIT TYPES
Circle with 1	101	Standard	Control	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 2	102	Standard	Control	Panel, full, stainless, brushed, with keypad	Panel	Yes
Circle with 3	103	Standard	Control	Panel, stainless, with full keypad, brushed, with keypad	Panel	Yes
Square with 1	104	Standard	Control	Panel, stainless, brushed, with full keypad	Panel	Yes
Square with 2	105	Standard	Control	Panel, stainless, brushed, with full keypad, with keypad	Panel	Yes
Square with 3	106	Standard	Control	Panel, stainless, with full keypad, with keypad	Panel	Yes
Circle with 4	107	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Square with 4	108	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 5	109	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 6	110	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 7	111	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 8	112	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 9	113	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Circle with 10	114	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Square with 5	115	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes
Square with 6	116	Panel	Panel	Panel, stainless, brushed, with full keypad	Panel	Yes

For more information, please contact us at additional Product Brochure

ESCALATORS

IF YOU NEED TO MOVE LOTS OF PEOPLE UP OR DOWN, ESCALATORS ARE THE IDEAL SOLUTION. IN SHOPPING MALLS AND AT AIRPORTS, SCHINDLER ESCALATORS MANAGE MASSES OF PEOPLE SAFELY AND QUICKLY. INDOOR OR OUTDOOR, COMMERCIAL OR PUBLIC SPACES, SCHINDLER HAS THE RIGHT MOBILITY SOLUTION.



ESCALATORS

ESCALATOR STEP WIDTHS AND ENERGY USAGE

Size	Width (between balustrade panels)	Single-step capacity	Applications	Energy consumption
Very small	400 mm (16 in)	One passenger, with feet together	A rare historic design found mostly in older department stores	3.7 kW (5.0 hp)
Small	600 mm (24 in)	One passenger	Low-volume sites, uppermost levels of department stores, when space is limited	3.7 kW (5.0 hp)
Medium	800 mm (31 in)	One passenger + one package or one piece of luggage	Shopping malls, department stores, smaller airports	7.5 kW (10.1 hp)
Large	1,000 mm (39 in)	Two passengers – one may walk past another	Mainstay of metro systems, larger airports, train stations, some retail usage	7.5 kW (10.1 hp)

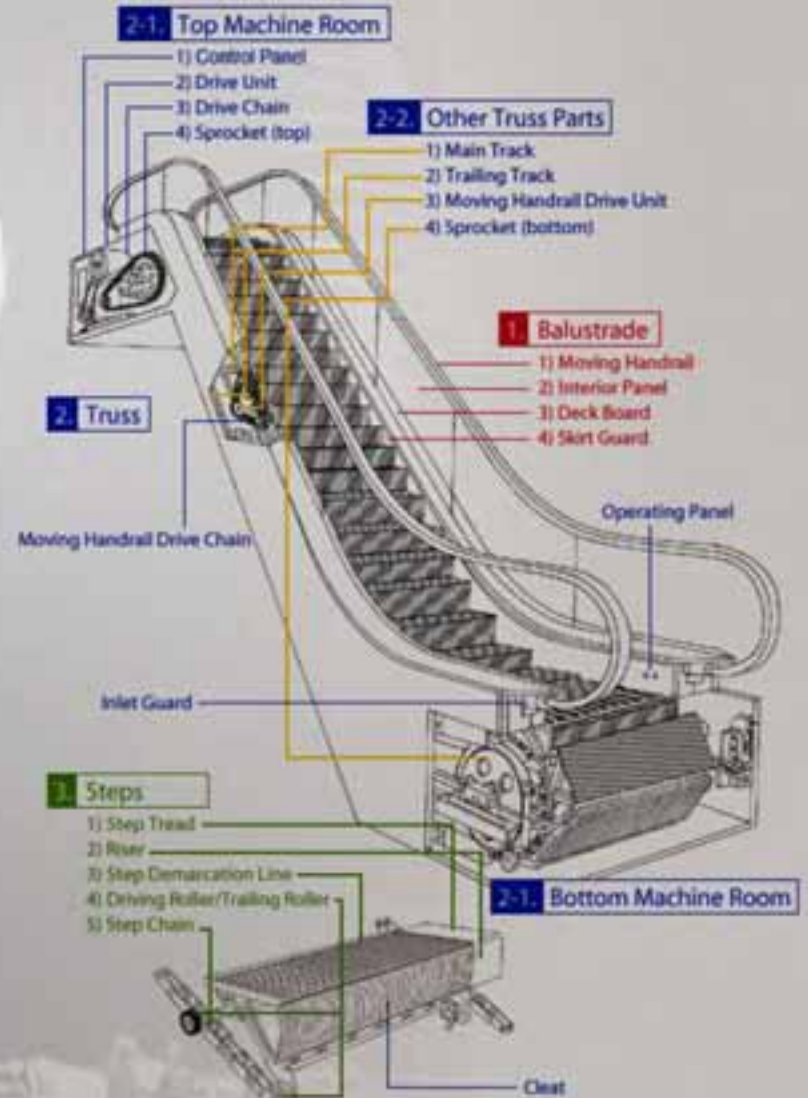
ESCALATORS

CALCULATIONS AND PARTS

Feet	$L = 1.732 H + 16' 2\text{--}11/16"$
Meters	$L = 1.732 H + 4.945$

*TRUSS EXTENSION REQUIREMENTS:
FOR 40" [1000mm] & 32" [800mm] NOMINAL STEP WIDTHS WITH 200-230V, UPPER LANDING MUST BE EXTENDED 7'-7 1/8" [200mm]
FOR 24" [600mm] NOMINAL STEP WIDTHS WITH 200-230V, UPPER LANDING MUST BE EXTENDED 1'-7 1/8" [200mm]

UNITS	BOTTOM SUPPORT VERTICAL REACTION (A)	TOP SUPPORT VERTICAL REACTION (B)	INTERMEDIATE SUPPORT VERTICAL REACTION (C)	NUMBER OF SUPPORTS	NOMINAL STEP WIDTH
Feet --- S	$291 * L(N)$	$291 * L(N) + 1888$	---	2	40" [1000mm]
Meter --- M	$4.25 * L(m)$	$4.25 * L(m) + 8.3$	---		
Feet --- S	$388 * L(N)$	$388 * L(N) + 1888$	---	2	32" [800mm]
Meter --- M	$5.89 * L(m)$	$5.89 * L(m) + 8.3$	---		
Feet --- S	$241 * L(N)$	$241 * L(N) + 1888$	---	2	24" [600mm]
Meter --- M	$3.51 * L(m)$	$3.51 * L(m) + 8.3$	---		
Feet --- S	$132 * L(N)$	$132 * L(N) + 944$	$392 * L(N)$	3	40" [1000mm]
Meter --- M	$1.83 * L(m)$	$1.83 * L(m) + 4.2$	$5.13 * L(m)$		
Feet --- S	$118 * L(N)$	$118 * L(N) + 944$	$327 * L(N)$	3	32" [800mm]
Meter --- M	$1.72 * L(m)$	$1.72 * L(m) + 4.2$	$4.82 * L(m)$		
Feet --- S	$103 * L(N)$	$103 * L(N) + 944$	$289 * L(N)$	3	24" [600mm]
Meter --- M	$1.51 * L(m)$	$1.51 * L(m) + 4.2$	$3.83 * L(m)$		



ESCALATORS

GENERAL DESIGN CONSIDERATIONS

FLOOR OPENINGS OF PROPER DIMENSIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ESCALATOR MANUFACTURER'S DRAWINGS.

THE INSTALLATION OF ALL PERMANENT ENCLOSURES, RAILINGS AND SMOKE BAFFLES FOR THE ESCALATOR WELL WAY THAT MAY BE REQUIRED.

ALL OTHER BUILDERS' WORK THAT MAY BE REQUIRED FOR THE INSTALLATION OF THE ESCALATOR, INCLUDING BUT NOT LIMITED TO ALL NECESSARY CHANGES TO CONDUITS, PIPING, DUCTS, SPRINKLER SYSTEMS AND ANY OTHER UTILITIES.

AN ENTRY AND EXIT SAFETY ZONE IN ACCORD WITH THE REQUIREMENTS OF THE GOVERNING CODE OR AUTHORITY SHALL BE KEPT CLEAR OF ALL OBSTACLES.

ALL CUTTING OF WALLS, FLOORS, CEILINGS OR PARTITIONS TOGETHER WITH ANY REPAIRS MADE NECESSARY BY SUCH CUTTING OR CHANGES AND ALL PAINTING INCIDENTAL THERETO:

PROTECTION OF ALL FLOOR OPENINGS ADJACENT TO AND IN THE GENERAL AREA OF THE ESCALATOR.

ELECTRICAL POWER, DURING THE ERECTION OF THE ESCALATOR OF THE NECESSARY CHARACTERISTICS TO PROVIDE ILLUMINATION, OPERATION OF REQUIRED TOOLS AND HOISTS AND CURRENT FOR STARTING, TESTING AND ADJUSTING THE ESCALATOR.

BARRICADES OR GUARDS AT LEAST 48" HIGH (INCLUDING PROTECTED ENTRANCES), FOR THE CONVENIENCE AND PROTECTION OF ALL WORKMEN AS WELL AS THE GENERAL PUBLIC, DURING THE ERECTION PERIOD OF THE ESCALATOR, SO THAT THE CONSTRUCTION AREA CAN BE ENCLOSED IN ACCORDANCE WITH APPLICABLE LAW. THE BARRICADES SHALL BE OF SUCH TYPE AS SHALL LIMIT ENTRANCE OF UNAUTHORIZED PERSONNEL TO THE CONSTRUCTION AREA. THE CONSTRUCTION SHALL BE OF SUCH SIZE AS TO PERMIT WORK TO PROCEED WITH REASONABLE EFFICIENCY.

ESCALATORS

SMOKE CURTAINS

SMOKE IS ROUTED AWAY FROM PEOPLE AND MERCHANDISE TO THE EXTRACTION SYSTEM

THE EXTRACTION SYSTEM REMOVES THE SMOKE AND TOXINS FROM THE FACILITY

THE SMOKE CURTAIN PROVIDES AN EFFECTIVE BLOCK FOR SMOKE AND FIRE. PEOPLE HAVE TIME TO LEAVE, AND FIRE PERSONNEL ARE ABLE TO EASILY ENTER. AS NOTED IN THE IMAGE TO THE RIGHT SMOKE CURTAINS CAN DEPLOY ONE OR BOTH SIDES TO FORM A SAFE EGRESS PATH.



ESCALATORS

Aesthetics

A wide range of design options.

Modern aesthetic options allow the NCE escalator to fit any building's design needs.

LED LIGHTING OPTIONS



Circle LED light



Recessed lighting



Track lighting



Customize with panel lighting



Recessed lighting

TRIM



Dark grey powder coated aluminum (standard)



Light tan powder coated aluminum



Dark tan powder coated aluminum



Light tan powder coated aluminum



Dark tan powder coated aluminum

SKIDSTRAP



Clear glass (standard)



Light green



Brown glass



Light tan powder coated aluminum



Grey glass

STEPS



Dark grey powder coated aluminum (standard)



Light tan powder coated aluminum (standard)



Black aluminum



Dark grey powder coated aluminum (standard)



Light tan powder coated aluminum (standard)

SKIRT PANEL



Dark grey powder coated aluminum (standard)



Light tan powder coated aluminum (standard)

FLOOR PLATE



Dark grey powder coated aluminum



Light tan powder coated aluminum



Dark grey powder coated aluminum

LED lighting available in different colors. Contact your sales representative for details.

ESCALATORS

SPIRAL ESCALATORS

FLOWING CURVES THAT OFFER NEW DIMENSIONS IN SPACE DESIGN

A GRAND ENTRANCE

EFFICIENT USE OF SPACE

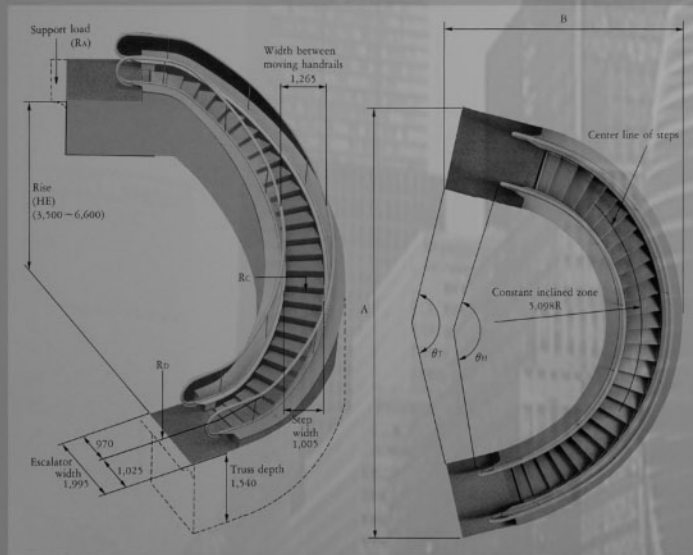
MULTIPLE PLAN



ESCALATORS

SPIRAL ESCALATORS

LAYOUT DATA



Standard Dimensions and Overall Loads

Rise HE (mm)	Dimension A (mm)	Dimension B (mm)	Angle between truss ends θ_T	Angle between handrail ends θ_H	Total support load $W = (R_a + R_b + R_c + R_d)$ (KN)
3,500	12,920	5,810	118.7	102.9	270
3,800	13,660	6,080	125.2	109.4	280
4,000	13,120	6,260	129.5	113.7	284
4,200	13,170	6,440	133.8	118.1	289
4,400	13,200	6,620	138.1	122.4	299
4,600	13,210	6,800	142.4	126.7	304
4,800	13,200	6,980	146.8	131.0	309
5,000	13,170	7,150	151.1	135.3	319
5,200	13,120	7,330	155.4	139.6	324
5,400	13,050	7,500	159.7	144.0	329
5,600	12,970	7,670	164.0	148.3	333
5,800	12,870	7,840	168.4	152.6	338
6,000	12,750	8,010	172.7	156.9	348
6,200	12,610	8,120	177.0	161.2	353
6,400	12,480	8,330	181.5	165.6	358
6,600	12,430	8,560	185.6	169.9	363

Notes: 1. The truss support angle is not included in dimension A and B.
2. The loads between Ra and Rb will vary according to the positions of the supports; however, they will total W in the "Total support load" column.

SPECIFICATIONS

Basic Specifications

Model	1200
Effective width between balustrades	1,200mm
Step width	1,005mm
Carrying capacity	6,300 persons/ hour
Rated speed *1	25m/ min
Inclination angle *2	30°
Power source	for driving: 3-phase AC200V/400V 50Hz or 210V/440V 60Hz for lighting inside machine room: Single-phase AC50/60Hz
Direction of curve *3	Left or right
Applicable rise	3,500 ~ 6,600mm *4

Notes: *1 Speed is measured at the outer side of step.
*2 Angle is measured at the inner side of step.
*3 "Left curve" is defined; when viewed from the floor plate on the lower floor, the escalator is curving to the left as it rises. "Right curve" is defined vice versa.
*4 Applicable rise is 3,500 ~ 6,000mm for areas following EN standard.

List of Finishes

Balustrade	Interior panel	Curved tempered glass; Colors: clear, bronze, gray with hairline-finished stainless steel posts
	Guardrail	Extruded aluminum anodized hairline finish
	Corner deckboard	Hairline-finished stainless steel
	Outer deckboard	Hairline-finished stainless steel
	Inner deckboard	Hairline-finished stainless steel
	Skirt guard	Fluoride resin coating finished (black)
	Moving handrail	Synthetic rubber; Standard colors: deep red, blue, black
Step	Tread board	Aluminum alloy (groove color: black)
	Cleated riser	Aluminum alloy (black)
	Demarcation line	Demarcation-Comb: polycarbonate resin mold (yellow); Side lines: painted (yellow)
Floor plate	Comb	Resin mold (yellow)
	Comb plate	Stainless steel plate with anti-slip pattern (groove color: black)
	Landing plate	Stainless steel plate with anti-slip pattern (groove color: black)
Manhole cover	Stainless steel plate with anti-slip pattern (groove color: black)	



Mitsubishi Elevator Irizawa Works has acquired ISO 9001 certification from the International Organization for Standardization based on a review of quality management.

The company has also acquired environmental management system standard ISO 14001 certification.

RESOURCES

BACKGROUND IMAGES

[HTTP://WWW.SHORPY.COM/NODE/6067](http://www.shorpy.com/node/6067)

[HTTP://BUTDOESITFLOAT.COM/AN-ARK-KIT-PUNCTURE-ANARCHY-TORTURE-AN-ARCTIC-LECTURE-AN-ORCHID](http://butdoesitfloat.com/an-ark-kit-puncture-anarchy-torture-an-arctic-lecture-an-orchid)

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CONTENT

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