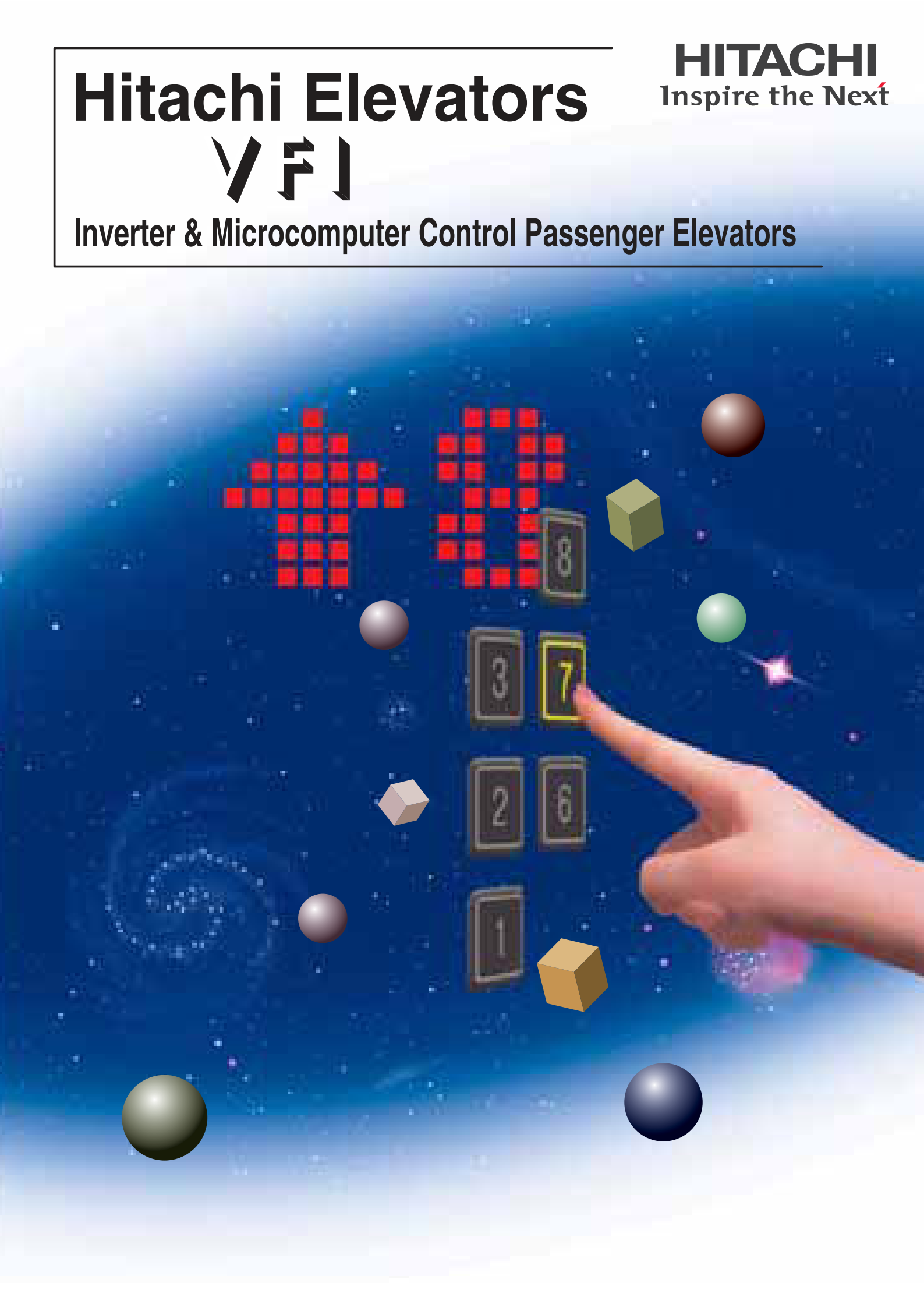
Hitachi Elevators

VFI

Inverter & Microcomputer Control Passenger Elevators

HITACHI
Inspire the Next



An Industry Leading Elevator for Tomorrow's Modern Buildings

VFI elevators were developed based on the concepts of user-friendliness, beauty, practicality, and "environmental harmony".

Versatile Design Arrangement

A series of models have been developed to cope with the increase in the load capacity from 450kg to 1600kg, and the speed from 60m/min (1.0 m/s) to 150m/min (2.5 m/s).

Energy Saving

The control performance and energy saving effects have been improved by incorporating a RISC (Reduced Instruction Set Computer) microprocessor which can execute high-speed arithmetic processing, as an inverter controller in the elevator.

Fine Operation

HITACHI has developed a supervisory control system called "FI (Flexible Intelligence) series". This software is applicable to a wide number of uses in buildings, and realizes individualization through the use of "Fuzzy" and "Expert" systems. The parameters are adjusted according to actual utilization conditions of the elevators. HITACHI prepared two grades of supervisory control systems in accordance with the parameters.

Greater Reliability

By applying dual micro-processors in the elevator control system, various functions can be performed to maximize reliability, flexibility, and safety.

High Efficiency

Electromagnetic noise has been reduced by incorporating an IGBT (Insulated Gate Bipolar Transistor) as a large-capacity, low-loss, high-speed switching drive element in the main circuit of the inverter.

Feeling of Comfort and Relaxation

Attractive designs were developed in order to create a feeling of comfort and relaxation. Further, numerous variations harmonize with the diverse range of modern architecture.

Novel Original High Technology

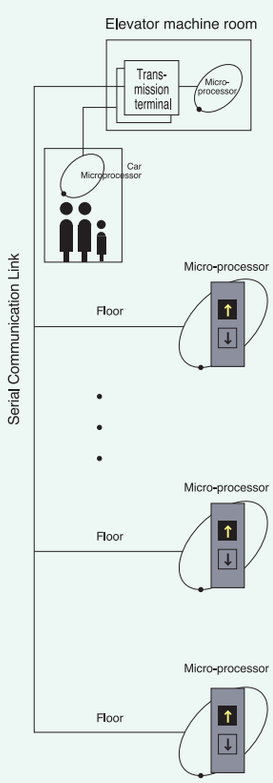
VFI elevators were developed based on the concepts of user-friendliness, beauty, practicality, and "environmental harmony".

Noise Reduction

The IPM (Intelligent Power Module) is characterized by large-capacity, low-loss, high-speed switching, and equipped with a self-protecting function.

Full Range of Functions for the Age of the Intelligent Building

Microprocessors connected by SCL (Serial Communication Link) are located in the car, on each floor and in the machine room. This enables flexible expansion of the system.

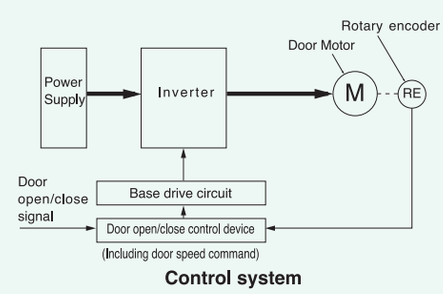


Use of RISC Microprocessor

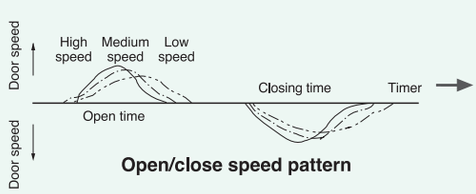
The digital-control system uses the RISC (Reduced Instruction Set Computer) micro-processor to digitally process everything from the speed command input to the PWM (Pulse Width Modulation) pulse output.

Door Open/Close Control (Speed feedback control)

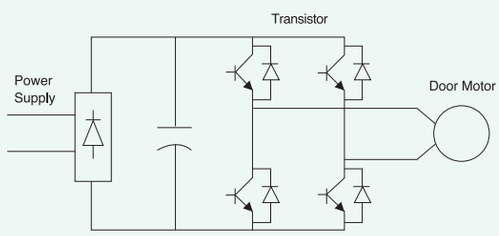
The door open and close control is governed by PWM (Pulse Width Modula-tion). The rotary encoder detects the open/close speed and position of the door and feeds back the signal's speed to the door control microprocessor. The microprocessor processes with the pre-set speed command and controls the door open/close speed.



Control system



Open/close speed pattern



Control system main circuit

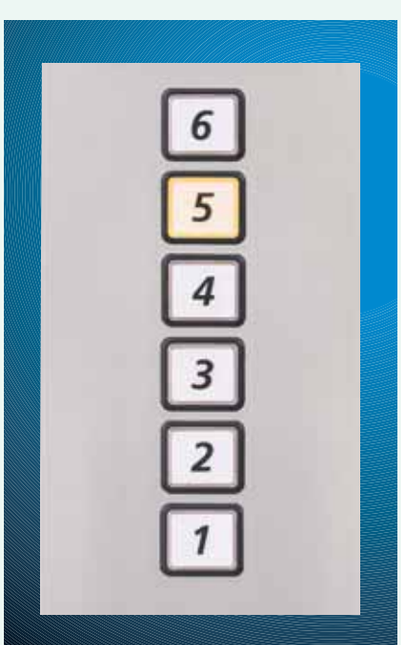
Variety of Car Designs

Elegant designs to suit any building interior

Lasting designs which fit diversified construction ideas based on a design concept called “neutral modern”.

Wide variety of ceiling designs
The wide variety of lighting designs permits the selection of optimum car interior brightness and light quality that gives the desired image to the car interior.

Large in-car indicator
Car indicator, located on the stainless steel front return panel, features a large and high contrast digital display incorporated with light dimming function and audio “beeping” sound upon floor display changes.



Ease of use has been reviewed from universal design

Buttons are arranged so that they can be accessed easily. The interphone and call buttons on the main vertical operating panel are installed 1500 mm above the floor, a height even children can reach.

Floor button flashing function
The destination floor button flashes when the car approaches the destination floor.

Large buttons
Buttons on the operating panel has a high contrast which can be read clearly even when the buttons are not lit.

CS

CS-101S Ceiling design (basic)

Ceiling
Center: Milky white acrylic
Surrounding: Painted sheet steel
Lighting: Fluorescent
Height (from floor): 2350 mm

Car walls (3 sides)
Painted sheet steel

Front return panels/car door/transom panel
Stainless steel hairline finish

Kickplate
Stainless steel hairline finish

Flooring
Vinyl tile

Door sill
Extruded hard aluminum

Car position indicator
LED dot-matrix type incorporated into car operating panel

Operating panel
Faceplate: Stainless steel hairline finish

Ventilation
Air blown through ceiling duct

Note: Colors reproduced here may vary slightly from the actual.

DX

Car walls (3 sides)
Laminated plastic sheet with stainless steel hairline trim

Front return panels/car door/transom panel
Stainless steel hairline finish

Kickplate
Stainless steel hairline finish

Flooring
Vinyl tile

Door sill
Extruded hard aluminum

Car position indicator
LED dot-matrix type incorporated into car operating panel

Operating panel
Faceplate: Stainless steel hairline finish

Ventilation
Air blown through ceiling duct

DX-12S Ceiling design (option)

Center: Painted sheet steel
Both sides: Painted aluminum with recess
Ceiling trim: Anodized aluminum
Lighting: Fluorescent
Height (from floor): 2300 mm

DX-201S Ceiling design (option)

Center: Painted sheet steel
Both sides: Milky white acrylic
Ceiling trim: Anodized aluminum
Lighting: Fluorescent
Height (from floor): 2300 mm

DX-23S Ceiling design (option)

Center: Half mirror
Both sides: Painted aluminum with recess
Ceiling trim: Anodized aluminum
Lighting: Fluorescent
Height (from floor): 2300 mm

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SL / EX

Car walls (3 sides)
Laminated plastic sheet with stainless steel hairline trim

Front return panels/car door/transom panel
Stainless steel hairline finish

Kickplate
Stainless steel hairline finish

Flooring
Vinyl tile

Door sill
Extruded hard aluminum

Car position indicator
LED dot-matrix type incorporated into car operating panel

Operating panel
Faceplate: Stainless steel hairline finish

Ventilation
Air blown through ceiling duct

SL-5S Ceiling design (option)

Center: Curved white acrylic with printed pattern
Both sides: Painted sheet steel with punched holes
Ceiling trim: Anodized aluminum
Lighting: Fluorescent
Height (from floor): 2300 mm

EX-32S Ceiling design (option)

(Applicable for car loading of 600 kg and more)

Upper portion: Painted sheet steel (with escape hatch)
Other portion: Painted sheet steel
Lighting: Fluorescent
Height (from floor): Upper: 2600 mm
Lower: 2300 mm

EX-403S Ceiling design (option)

(Applicable for car loading of 600 kg and more)

Center: Milky white acrylic
Center decoration: Painted sheet steel
Surrounding: Painted sheet steel (with acrylic lens)
Lighting: Fluorescent
Height (from floor): Upper: 2425 mm
Lower: 2300 mm

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Variety of entrance

Entrance (basic)

Jamb:
AS-1X (narrow) type,
Painted sheet steel (width 50 mm)

Doors:
Painted sheet steel

Sill:
Extruded hard aluminum

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Entrance (option)

Jamb:
TL-2X (wide) type with transom

Transom:
Painted sheet steel

Jamb Frame:
Stainless steel hairline finish

Doors:
Painted sheet steel

Sill:
Extruded hard aluminum

Entrance (option)

Jamb:
AS-1X (narrow) type without transom, stainless steel mirror finish

Doors:
Stainless steel mirror etched finish

Sill:
Extruded hard aluminum

Entrance (option)

Jamb:
TL-2X (wide) type with transom

Transom:
Stainless steel hairline etched finish

Jamb Frame:
Stainless steel hairline finish

Doors:
Stainless steel hairline etched finish

Sill:
Extruded hard aluminum

Entrance (option)

Jamb:
TS-1X (wide) type without transom, painted sheet steel

Doors:
Painted sheet steel

Sill:
Extruded hard aluminum

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Operating panels and indicators (basic)

Entrance

Direction lamp

Hall indicator
(Character height 28 mm)

Hall button

Hall button & indicator
(VSDX-A05-5)

Hall button
(BL-A05-5)

Car

Car position indicator

Interphone

Interphone call button

Door open/close button

Floor button
(with register lamp)

Switch box

Operating panel
(OPS-A05-5)

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Entrance

Hall button & indicator
(VSDX-B95)

Hall button
(BLD-B95)

Car

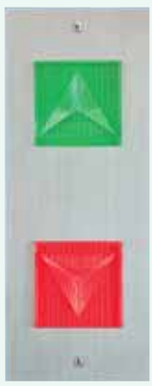
Operating panel
(OPS-B95)

Operating panels and indicators (option)

Entrance

Hall lantern (HLS-025S)

Hall lantern
(VLS-115)



Hall lantern
(VLS-90S)

When group supervisory control system is employed, hall lanterns are provided as a standard feature.

Hall indicator (HSDX)

Hall button & indicator
(VSDX-A98-1)

Hall button
(BL-A98-1)

Car

Operating panel
(OPS-A98-1)

List of designs/finishes

	Items	Design/finishes	Basic : ●	Option : ●
Car design	Ceiling	Basic (CS-101S)	●	
		Deluxe series (DX-12S, DX-201S, DX-23S, SL-5S)		●
		Excellent series (EX-32S, EX-403S) (The ceiling of the EX series shall be applied to car loading of 600 kg and more)		●
	Car wall (3 sides)	Painted sheet steel	●	
		Laminated plastic sheet with stainless steel hairline trim		●
		Stainless steel hairline finish		●
		Stainless steel hairline etched finish (Hitachi standard pattern)		●
	Front return panel	Stainless steel hairline finish	●	
		Stainless steel hairline etched finish (Hitachi standard pattern)		●
		Stainless steel mirror finish		●
	Car door	Stainless steel hairline finish	●	
		Stainless steel hairline etched finish (Hitachi standard pattern)		●
		Stainless steel mirror finish		●
	Kickplate (3 sides)	Stainless steel hairline finish	●	
	Transom panel	Stainless steel hairline finish	●	
		Stainless steel hairline etched finish (Hitachi standard pattern)		●
		Stainless steel mirror finish		●
	Sill	Extruded hard aluminum	●	
	Operating panel face-plate	Stainless steel hairline finish	●	
Entrance	Jamb	Narrow: Painted sheet steel	●	
		Wide: Painted sheet steel		●
		Stainless steel hairline finish		●
		Stainless steel mirror finish		●
	Sill	Extruded hard aluminum	●	
		Painted sheet steel	●	
	Door	Stainless steel hairline finish		●
		Stainless steel hairline etched finish (Hitachi standard pattern)		●

Research and Development

Excellence and flexibility in design at manufacturing plant in Singapore

This modern manufacturing plant in Singapore boasts a complete team of local and Japanese engineers geared towards providing maximum flexibility in design and manufacturing to suit the customer requirements.

High accuracy and efficiency in planning of equipment layout is made possible by the most advanced CAD system.

Equipment is made to the highest standard of quality and reliability with modern CNC machinery.

An integrated engineering system - from development, to design and production

Head office, research centers and plants work closely together to develop new technologies
Staff throughout the company works together as one team to conduct research and develop technologies.

High performance simulator enchances overall elevator system efficiency
A high performance simulator is utilized for all stages of elevator development, from planning through system design. Planning, research and development are carried out according to the results of this statistical analysis.

Cutting-edge CAD/CAM systems
The latest in CAD/CAM systems help us carry out elevator layout and various other design and production steps more quickly and efficiently.

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