### **Network of Regional Offices and Area Offices**



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ISO9001 certification

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#### **Kochi Area Office**

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#### MITSUBISHI ELEVATOR INDIA PVT. LTD

Visit our website at: https://www.mitsubishielevator.in

A Safety Tips: Be sure to read the instruction manual fully before using this product.

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# Mitsubishi Elevator India Pvt. Ltd.



# **Delightful Ride for ELITE**



# **Delight our dearest customer with DeLITE**

### **Reliable & Smart Solution**

### **Basic Specification**

Check	Capacity (KG)	Per- sons	Speed (m/s)	Entrance width (mm)	Door type	Car internal dimensions AA x BB (mm)	Minimum hoistway dimensions AH x BH (mm)	Maximum hoistway dimensions AH x BH (mm)	Pit depth (Min - Max) (mm)	Overhead (Min - Max) (mm)
	408	6	1.0	700	CO	950 x 1150	1650 x 1475	2050 x 1775	1400 - 2000	4100 - 5000
	544	8	1.0	800	CO	1100 x 1300	1800 x 1605	2200 x 1905	1400 - 2000	4100 - 5000



### **State-of-the-art Technology** Developed by our worldwide experience

# Sustainability

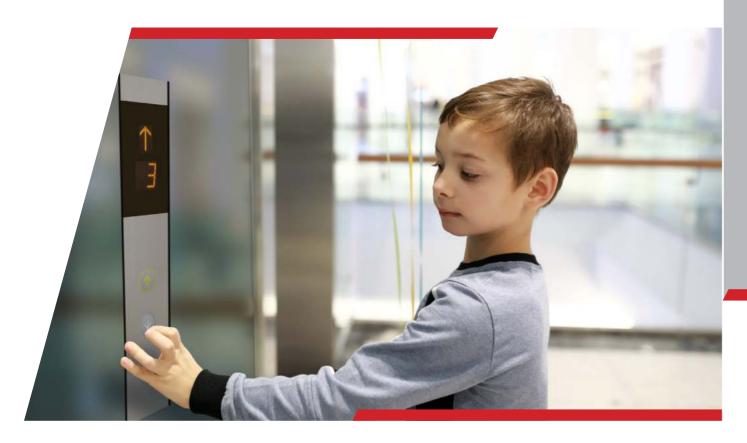
By using energy wisely and environmental friendly



# Safety is your CHOICE

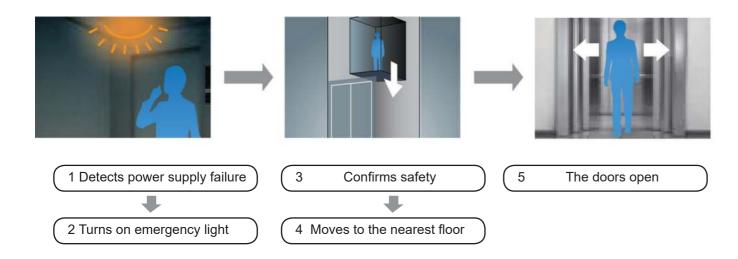
### Safety and Comfort

Whether the user is elderly or a person with special needs, our elevators deliver every passenger to the destination floor safely and comfortably.



## Mitsubishi Emergency Landing Device (MELD)

Upon power failure, the car automatically moves to the nearest floor using a rechargeable battery to facilitate the safe evacuation of passengers.



### Multi-beam Door Sensor

Multiple infrared-light beams cover a door height of approximately 1800mm to detect passengers or objects as the doors close

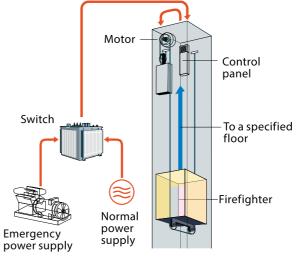


### Firefighter's Emergency Operation\*

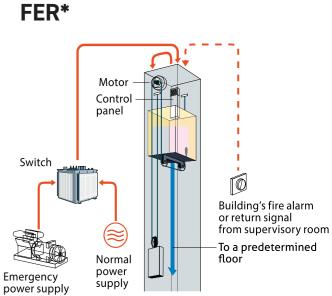
FE: When the fire operation switch is activated, the car immediately returns to a predetermined floor. The car then responds only to car calls which facilitate firefighting and rescue operations

FER: When a key switch or a building's fire alarm is activated, all cars immediately return to a predetermined floor and open the doors to facilitate the safe evacuation of passengers





\*Optional



# State-of-the-art TECHNOLOGY

### M's BRIDGE - Remote Maintenance Service\*

24 Hours a day, 365 days a year, continual service without suspending elevator operations

M's Bridge connects the elevator with our remote maintenance service, which are at your disposal 24/7, year round. We have turned maintenance service provided by overseas service offices worldwide into a computer application that uses our internet of things (IoT) platform. In doing so, we are providing services that are more sophisticated than ever before, while simultaneously improving user safety and convenience.

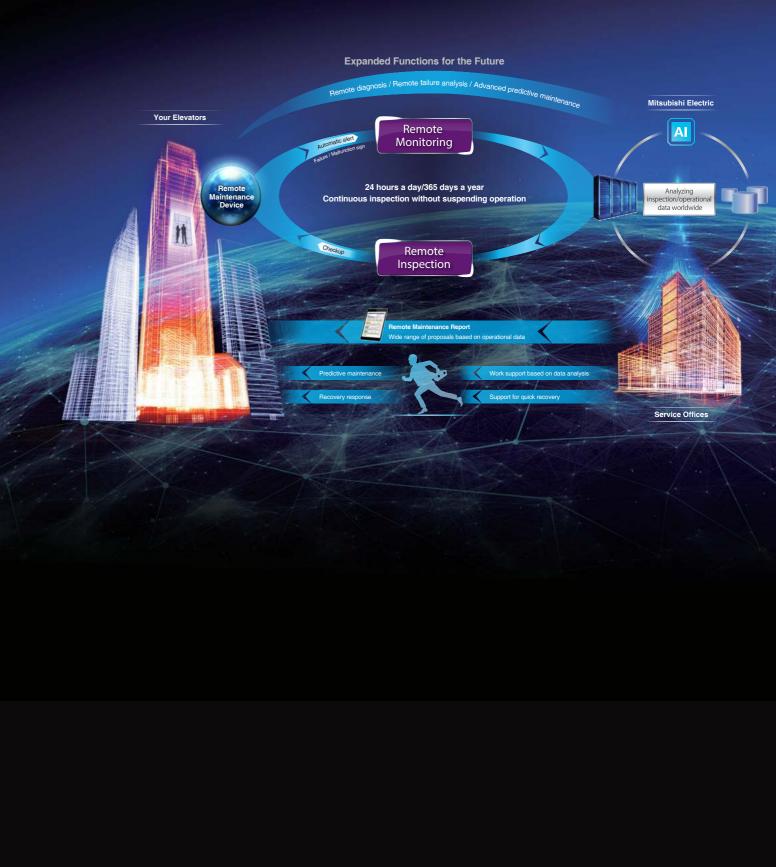
#### Touchless solution for elevator use\*

#### Enable user to operate elevator with their own smartphone

Mobile application of elevator enable users to call the elevator car and to reach the destination floor with their own smartphone. No necessity to physically select and push the button of the destination floor.



# MsBRíDGE



\*Optional

# **Sustainability**

Our long-term commitment to developing energy efficient elevators has created system and functions that make intelligent use of power.



#### Traction Machine with PM Motor (PM motor: Permanent magnet motor)

DeLITE elevator uses permanent magnet excited gearless drive for traction sheave cable elevator with compact space saving design. This machine provides high energy efficiency and low noise levels while running.

#### Permanent Magnet (PM) Door Motor

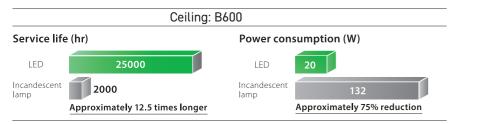
The direct-drive PM door motor and the VVVF inverter realize efficient door opening and closing.



#### LED Lighting

Used for ceiling lights, LEDs boost the overall energy performance of the building. Furthermore, a long service life eliminates the need for frequent lamp replacement.

#### Advantage of LEDs



**Car Light/Fan Shut Off – Automatic (CLO-A/CFO-A)** The car lighting/ventilation fan is automatically turned off if there are no calls for a specified period.



Ceiling: B600

# **Design-Car Design**



#### **Car Finishes**

SI. No.	Selection	Walls	Transom panel	Doors	Front return panels	Sill
1	Painted steel sheet	0	0	0	0	
2	Stainless steel hairline-finish (SUS)	S	S	S	S	
3	Stainless steel hairline-finish with Etched pattern (SUS-HE)	0	0	0	0	
4	Stainless steel - Gold Finish	0	0	0	0	
5	Extruded hard aluminum					S
	Selection					

Note that flooring is supplied by customer. \*in case of marble or granite

Note :

\*1 AS or BP feature is applicable as an option only when EVRC-C is applied. \*2 For other finishes, please consult us.

#### B600

#### Ceiling : Painted Steel Sheet Lighting: Downlights (LEDs)

#### Car Design Example

Walls	Stainless steel, hairline-finish
Transom panel	Stainless steel, hairline-finish
Doors	Stainless steel, hairline-finish
Front return panels	Stainless steel, hairline-finish
Flooring	Supplied by customer*
Car operating panel —	CBV1-S760

\*in case of marble or granite

# **Design-Hall & Other Features**

#### Narrow Jamb



Jamb - Painted steel, hairline-finish Doors - Painted steel, hairline-finish Hall position indicator and button - PIV1-A1010N

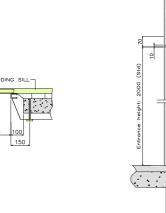
#### Hall Finishes

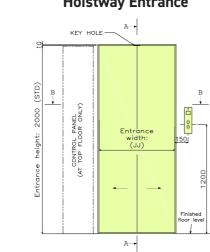
SI. No.	Materials/Finishes	Jamb	Doors	Sill
1	Painted steel sheet	0	0	
2	Stainless steel hairline-finish (SUS)	S	S	
3	Stainless steel hairline-finish with Etched pattern(SUS-HE)		0	
4	Stainless steel - Gold Finish	0	0	
5	Extruded hard aluminum			S
	Selection			

**Door Elevation** 

(Section A-A)

Door Plan (Section B-B)





#### Hoistway Entrance

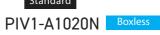


B600

**BUTTON** 



PIV1-A1010N Boxless



# **CEILING & FAN**



B610



Standard CBV1-S760



Quickly pressing the same button again twice



The wrong car call can be cancelled

# Layout

### **Vertical Dimensions**

Rated speed (m/sec.)	Rated capacity (kg)	Maximum no. stops	Travel [TR]	Overhe	imum ead (mm) ng Type B610P / B610S	Minimum Pit depth(mm)	Minimum Floor Height (mm)
1.0	408 [P6] 544 [P8]	12	TR≤35	41	00	1400	2650

[Terms of the table]

• The contents of this table only apply to standard specifications without counterweight safety. Please consult us for other specifications.

### Power feeder data

Capacity	Speed	Motor output	Curren	t at 400V	Capacity of power supply	Breaker current rating	Heat emissions (W)	
(kg)	(m/sec.)	(kW)	FLU (A)	FLAcc (A)	(kVA)	(A) 400V		
408	10	2.1	10 7	20 F		15	050	
544	1.0	3.1	10.7	22.5	4	15	850	

FLU: current during upward operation with full load at power supply voltage of 400V. FLAcc: current while accelerating with full load at power supply voltage of 400V.

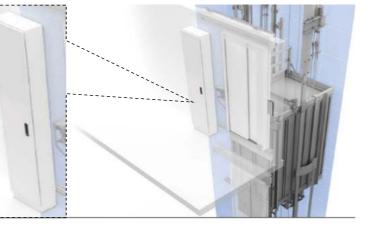
Note: If power supply voltage (E) is a value other than 400V, FLU current and FLAcc current are obtained via the following formula.

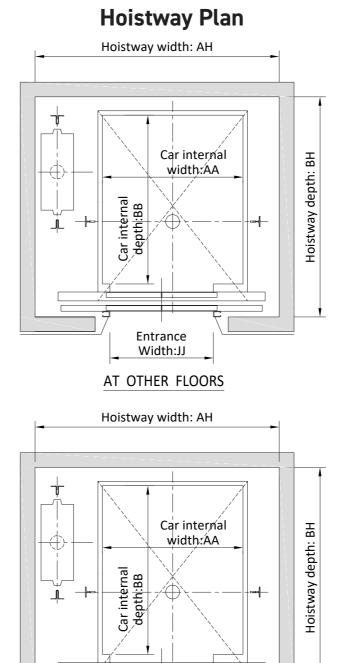
(FLU/FLAcc current (A) at E (V))=(Current at 400V)x(400/E(V))

### Control panel at hall

As for DeLITE, control panel with a built-in Inverter unit is located on top terminal floor in lift lobby (Out side hoistway).

Emergency and Test panel (ETP) is also incorporated in this control panel, to control rescue operation and to conduct tests from outside the hoistway.





#### Table for Ceiling Height

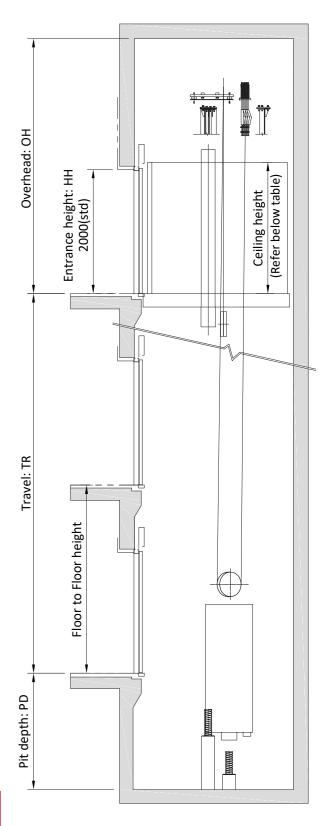
CONTROL PANEL

Flooring	Application	Ceiling Height (H (mm)
2mm PVC Tile	S	2123
20mm Recess (for Granite)	А	2105
25mm Recess (for Granite)	А	2100

Entrance Width:JJ

AT TOP FLOOR

### **Hoistway Section**



HL)

# **Standard features**

Feature	Abbreviation	Description	1 Car	2 Car
Mitsubishi Emergency Landing Device	MELD	Upon power failure, a car equipped with this function automatically moves to and stops at the nearest floor using a rechargeable battery, and the doors open to facilitate the safe evacuation of passengers. (Maximum allowable floor-to-floor distance is 10 meters.)	S	5
Emergency Bell	EMB	A system for entrapped passengers in a car to contact a person outside by pressing the alarm button on the car operating panel.	S	S
Emergency Car Lighting	ECL	Car lighting which turns on immediately when power fails to provide a minimum level of lighting within the car. (Choice of dry-cell battery or trickle-charge battery.)	S	S
Door sensor self- diagnosis	DODA	Failure of non-contact door sensors is checked automatically, and if a problem is diagnosed, the door close timing is delayed and the closing speed is reduced to maintain elevator service and ensure passenger safety.	S	5
Automatic Door Speed Control	DSAC	Door load on each floor, which can depend on the type of hall door, is monitored to adjust the door speed, thereby making the door speed consistent throughout all floors.	S	S
Reopen With Hall Button	ROHB	Closing doors can be reopened by pressing the hall button corresponding to the travelling direction of the car.	S	S
Repeated Door-Close	RDC	Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is cleared from the doorway.	S	S
Door Nudging Feature- with Buzzer	NDG	A buzzer sounds and the doors slowly close when they have remained open for longer than the preset period. With AAN-G, a beep and voice guidance sound instead of the buzzer.	S	S
Door Load Detector	DLD	When excessive door load has been detected while opening or closing, the doors immediately reverse.	S	S
Multi-Beam Door Sensor	MBS	Multiple infrared-light beams cover some of the height and full width of the doors. Closing doors can be reopened when one infrared-light beam is interrupted.	S	S
Safe Landing	SFL	If a car has stopped between floors due to some equipment malfunction, the controller checks the cause, and if it is considered safe to move the car, the car will move to the nearest floor at low speed and the doors will open.	S	S
Next Landing	NXL	If the elevator doors do not open fully at a destination floor, the doors close and the car automatically moves to the next or nearest floor where the doors will open.	S	S
Continuity of Service	COS	A car which is experiencing trouble is automatically withdrawn from group control operation to maintain overall group performance.	-	S
Overload Holding Stop	OLH	A buzzer sounds to alert the passengers that the car is overloaded. The doors remain open and the car will not leave that floor until enough passengers exit the car.	S	S
Car Call Canceling	ссс	When a car has responded to the final car call in one direction, the system regards remaining calls in the other direction as mistakes and clears them from the memory.	S	S
Car Fan Shut Off- Automatic	CFO-A	Car ventilation fan shut off automatically to conserve energy if there are no calls for a specified period.	S	S
Car Light Shut Off- Automatic	CLO-A	Car lighting shut off automatically to conserve energy if there are no calls for a specified period.	S	5
Backup Operation for Group Control Microprocessor	GCBK	An operation by car controllers which automatically maintains elevator operation in the event that a microprocessor or transmission line in the group controller has failed.	-	S
Independent Service	IND	Exclusive operation where a car is withdrawn from group control operation for independent use, such as maintenance or repair, and responds only to car calls.	S	S
False Call Canceling Car Button Type	FCC-P	If a wrong car button is pressed, it can be cancelled by quickly pressing the same button again twice.	S	S

Feature	Abbreviation	Description	1 Car	2 Car
Car Computer Backup Operation	ССВК	Failure of a car controller is immediately reported to the control system. The car parks at the next stop and opens the doors so that passengers exit.	S	S
Hall Computer Backup Operation	НСВК	Failure of a hall controller is immediately reported to the control system. The car parks at the next stop and opens the doors so that passengers exit.	S	S
Strategic Overall Spotting	SOHS	To reduce passenger waiting time, cars which have finished service are automatically directed to positions where they can respond to predicted hall calls as quickly as possible.	-	S
Car Top Buzzer	СТВΖ	According to elevator operating condition, various buzzers are provided.	S	S
Fire Emergency Return	FER	Upon activation of a key switch or a building's fire sensors, all calls are cancelled, all cars immediately return to a specified evacuation floor and the doors open to facilitate the safe evacuation of passengers.	S	S

# **Optional features**

Feature	Abbreviation	Description	1 Car	2 Car
Firefighter's Emergency Operation	FE	During a fire, when the fire operation switch is activated, the car calls of a specified car and all hall calls are cancelled and the car immediately returns to a pre-determined floor. The car then responds only to car calls which facilitate fire-fighting and rescue operations.	A	A
Earthquake Emergency Return	EER-S	Upon activation of seismic sensors, all cars stop at the nearest floor, and park there with the doors open to facilitate the safe evacuation of passengers.	A	A
Emergency Stop with Switch	EMS	This feature is provided on the car operating panel and makes the running car stop in case of emergency.	А	А
Voice Guidance System	AAN-G	Information on elevator service such as the current floor or service direction is given to the passengers inside a car. (English only)	А	А
Inter-Communication System	ITP	A system which allows communication between passengers inside a car and the building personnel.	A	А
Non-Service Temporary Release for Car Call – Card Reader Type	NSCR-C	To enhance security, car calls for desired floors can be registered only by placing a card over a card reader. This function is automatically deactivated during emergency operation.	A	А
Elevator Remote Control - Car	EVRC-C	A handy accessory, especially for exclusive operation and changing lighting settings, etc.	А	А
Main Floor Parking	MFP	An available car always parks on the main (lobby) floor with the doors open.	А	А
M's BRIDGE	GRMS	A remote maintenance monitoring system service which enables continuous service (remote inspection) 24/7 all year round.	А	А
Smartphone Car Calling System	SCCS	The mobie application which enables elevator users to call the elevator car and to reach the destination floor with their own smartphone	А	А
Contact Supply of Elevator State Signal for BA/BMS	CSB	The signals of elevator state are output to the BA (Building Automation / BMS (Building Management Systems) by contacts.	А	А
Car Arrival Chime-car	AECC	Electronic chimes sound to indicate that a car will soon arrive, (The chimes are mounted either on the top and bottom of the car.)	А	А

S = Standard A = Optional

# Notes

#### **Work Not Included in Elevator Contract**

The following items are excluded from Mitsubishi Electric's elevator installation work, and are therefore the responsibility of the building owner or general contractor

- Architectural finishing of walls and floors in the vicinity of the entrance hall after installation has been completed.
- Construction of an illuminated, ventilated and waterproofed hoistway.
- The provision of openings and supporting members as required for equipment installation.
- The provision of separate beams, when the hoistway dimensions markedly exceed the specifications, and intermediate beams when two or more elevators are installed.
- All other work related to building construction.
- The provision of the main power and power for illumination in the hoistway by laying of the feeder wiring from the electrical switch boxes in electrical room into the hoistway.
- The provision of outlets and laying of the wiring in the hoistway, plus the power from the electrical switch box.
- The laying of conduits and wiring between the elevator pit and the terminating point for the devices installed outside the hoistway, such as the emergency bell, intercom, monitoring and security devices.
- The power consumed in installation work and test operations.
- All the necessary building materials for grouting in of brackets, bolts, etc.
- The test provision and subsequent alteration as required, and eventual removal of the scaffolding as required by the elevator contractor, and any other protection of the work as may be required during the process.
- The storage room shall have adequate lighting arrangement and ventilation. The storage area should be safe, dry, lockable and weather proof of elevator equipment and tools storage during elevator installation.
- The security system, such as a card reader, connected to our elevator controller, when supplied by the building owner or general contractor.
- The provision of RCC Buffer stand as per GAD.
- Construction of elevator hoistway front wall at top floor shall made after installation of Control panel & entrance unit.
- · Statutory approvals for elevator erection permission and operation and operating license, as State wise

Note: Work responsibilities in installation and construction shall be determined according to local laws. Please consult us for details.

#### **Elevator Site Requirements**

- The temperature of the elevator hoistway shall be below 40°C.
- The following conditions are required for maintaining elevator performance.
- a. The relative humidity shall be below 90% on a monthly average and below 95% on a daily average.
- b. Prevention shall be provided against icing and condensation occurring due to a rapid drop in the temperature in the elevator hoistway.
- c. The elevator hoistway shall be finished with mortar or other materials so as to prevent concrete dust.
- Voltage fluctuation shall be within a range of +5% to -10%.

#### **Ordering Information**

Please include the following information when ordering or requesting estimates:

- The desired number of units, speed and loading capacity.
- The number of floors to be served or number of elevator landings along with non-stop and Emergency landing floor items.
- The total elevator travel and each floor-to-floor height.
- Operation system.
- Selected design and size of car.
- Entrance design.
- Signal equipment.
- A schematic diagram of the part of the building where the elevators are to be installed.
- The voltage, number of phases, and frequency of the power source for the motor and lighting.

