

# TOSHIBA

Leading Innovation >>>

## New ELBRIGHT

TOSHIBA **HIGH SPEED ELEVATORS**

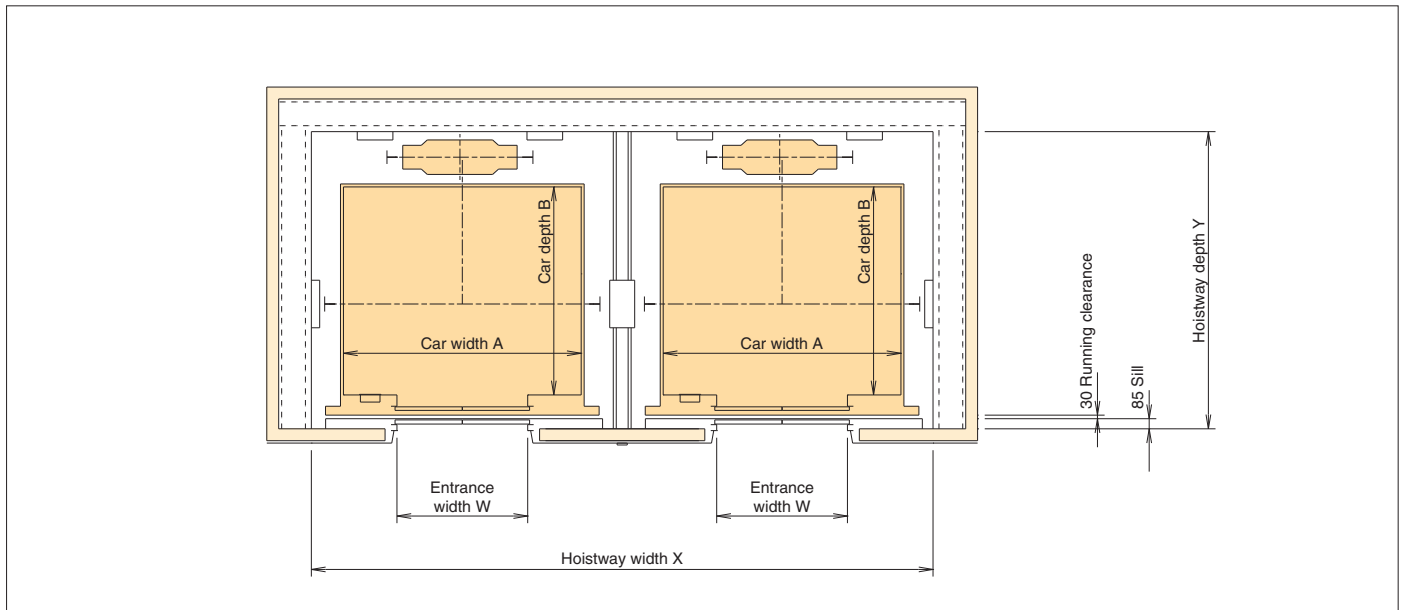
Installation plan and power facility plan for *Taiwan*

# Installation plan / Power facility plan

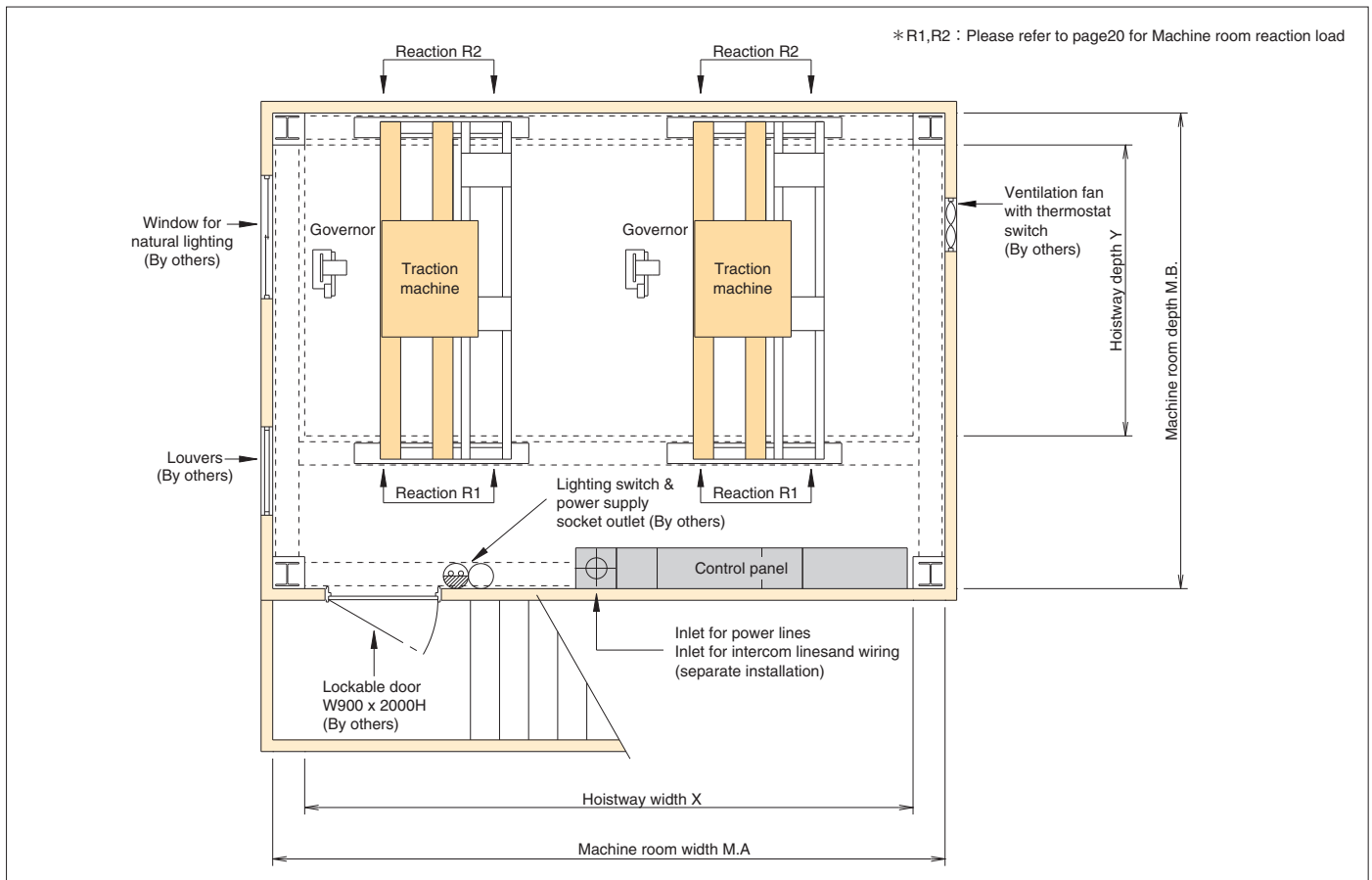
## 1 Installation plan <Standard type>

### Installation diagram for 9 to 27 passenger

#### ■ Hoist-way plan



#### ■ Machine-room plan



## ■ Shaft and machine room dimensions (Floor plan dimensions)

| Rated speed (m/min)             | Type   | Entrance (mm) |        | Internal car dimensions (mm) AxB | Shaft (mm)          |                    |                    |                       | Machine room (mm)     |                      |                      |                         |
|---------------------------------|--------|---------------|--------|----------------------------------|---------------------|--------------------|--------------------|-----------------------|-----------------------|----------------------|----------------------|-------------------------|
|                                 |        | Width         | Height |                                  | Single shaft* X x Y | Dual shaft** X x Y | Triple shaft X x Y | Quadruple shaft X x Y | Single shaft* MA x MB | Dual shaft** MA x MB | Triple shaft MA x MB | Quadruple shaft MA x MB |
| 120<br>150<br>180<br>210<br>240 | P9-CO  | 800           | 2100   | 1400×1100                        | 1940×1895           | 4030×1895          | 6120×1895          | 8210×1895             | 2350×3400             | 4500×3400            | 7000×3400            | 9150×3400               |
|                                 | P13-CO | 900           | 2100   | 1600×1350                        | 2140×2145           | 4430×2145          | 6720×2145          | 9010×2145             | 2500×3650             | 4800×3650            | 7450×3650            | 9750×3650               |
|                                 | P15-CO | 900           | 2100   | 1600×1500                        | 2140×2295           | 4430×2295          | 6720×2295          | 9010×2295             | 2500×3800             | 4800×3800            | 7450×3800            | 9750×3800               |
|                                 | P17-CO | 1000          | 2100   | 1800×1500                        | 2340×2295           | 4830×2295          | 7320×2295          | 9810×2295             | 2700×3800             | 5200×3800            | 8050×3800            | 10550×3800              |
|                                 | P20-CO | 1000          | 2100   | 2000×1500                        | 2540×2295           | 5230×2295          | 7920×2295          | 10610×2295            | 2900×3800             | 5600×3800            | 8650×3800            | 11350×3800              |
|                                 | P24-CO | 1100          | 2100   | 2000×1700                        | 2540×2495           | 5230×2495          | 7920×2495          | 10610×2495            | 2900×4000             | 5600×4000            | 8650×4000            | 11350×4000              |
|                                 | P27-CO | 1200          | 2100   | 2100×1750                        | 2640×2545           | 5430×2545          | 8220×2545          | 11010×2545            | 3050×4050             | 5900×4050            | 9100×4050            | 11950×4050              |

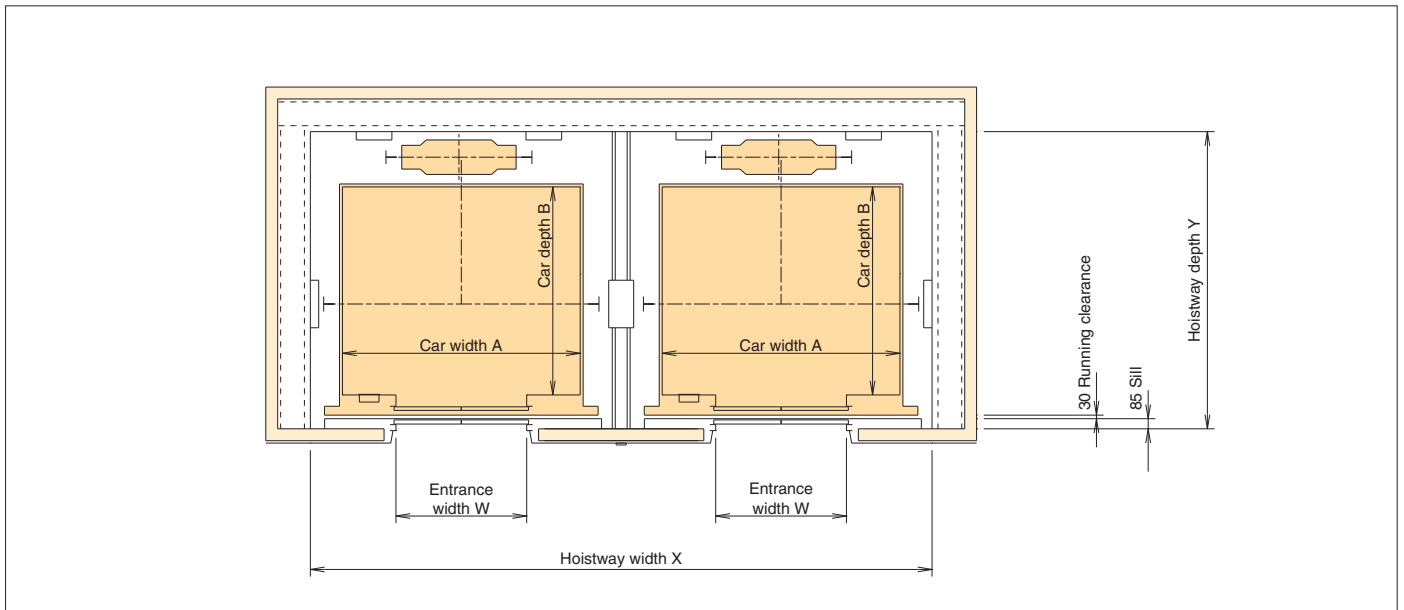
\* In order to prevent noise in the car for a single-shaft elevator with a speed of 180 m/min or greater, increase the dimensions of the shaft X and machine room MA.  
 \*\* In order to prevent noise in the car for a double-shaft elevator with a speed of 210 m/min or greater, increase the dimensions of the shaft X and machine room MA.  
 Note: Please contact us for detailed dimensions.

# Installation plan / Power facility plan

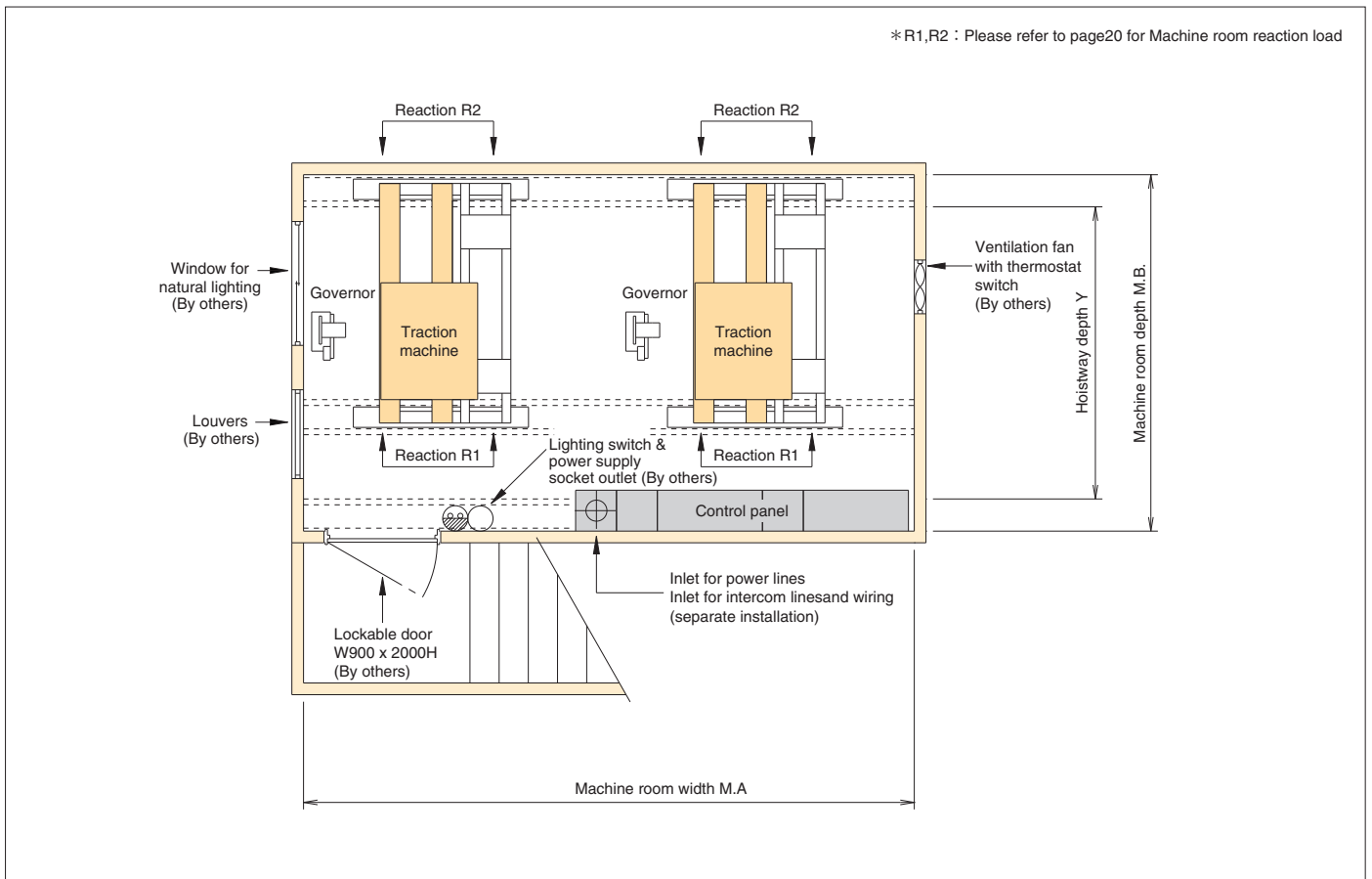
## 2 Installation plan <Compact machine room type>

### Installation diagram for 9 to 27 passenger

#### ■ Hoist-way plan



#### ■ Machine-room plan



## ■ Shaft and machine room dimensions (Floor plan dimensions)

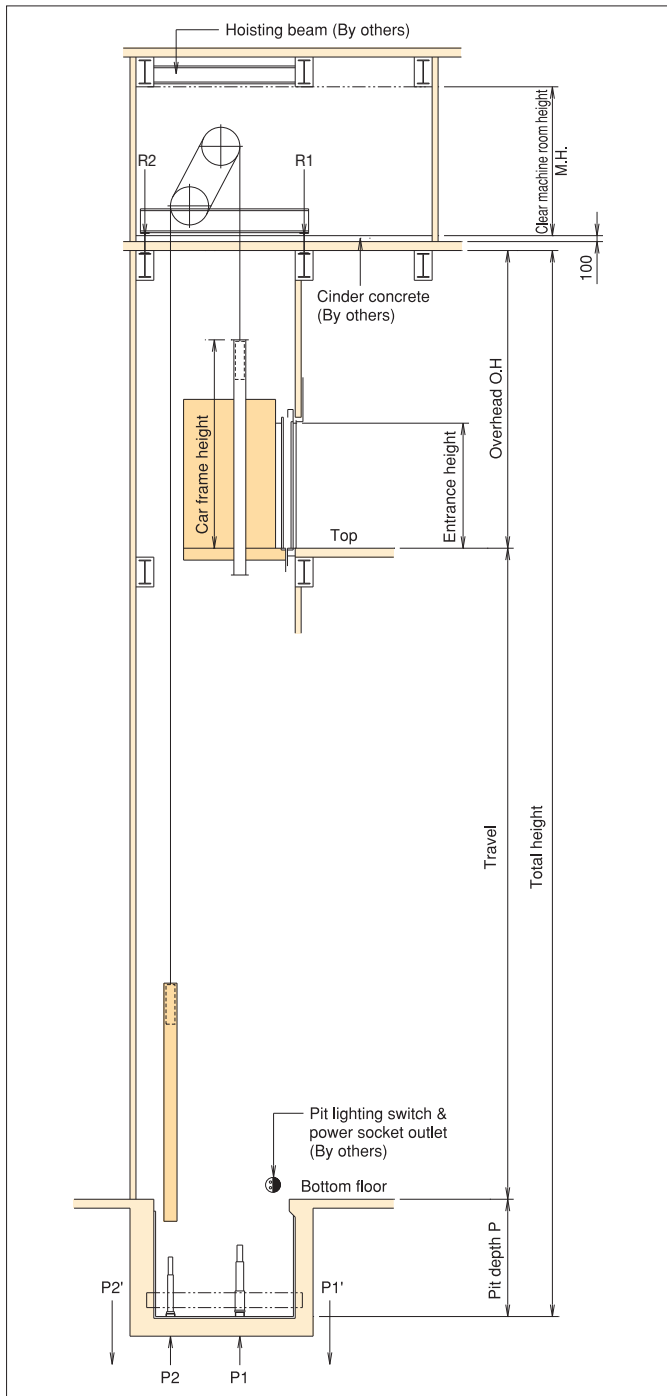
| Rated speed (m/min)             | Type   | Entrance (mm) |        | Internal car dimensions (mm) AxB | Shaft (mm)          |                    |                    |                       | Machine room (mm)     |                      |                      |                         |
|---------------------------------|--------|---------------|--------|----------------------------------|---------------------|--------------------|--------------------|-----------------------|-----------------------|----------------------|----------------------|-------------------------|
|                                 |        | Width         | Height |                                  | Single shaft* X x Y | Dual shaft** X x Y | Triple shaft X x Y | Quadruple shaft X x Y | Single shaft* MA x MB | Dual shaft** MA x MB | Triple shaft MA x MB | Quadruple shaft MA x MB |
| 120<br>150<br>180<br>210<br>240 | P9-CO  | 800           | 2100   | 1400×1100                        | 1940×1895           | 4030×1895          | 6120×1895          | 8210×1895             | 2100×2950             | 4230×2950            | 6370×2950            | 8610×2950               |
|                                 | P13-CO | 900           | 2100   | 1600×1350                        | 2140×2145           | 4430×2145          | 6720×2145          | 9010×2145             | 2250×3050             | 4430×3050            | 6720×3050            | 9010×3050               |
|                                 | P15-CO | 900           | 2100   | 1600×1500                        | 2140×2295           | 4430×2295          | 6720×2295          | 9010×2295             | 2250×3150             | 4430×3150            | 6720×3150            | 9010×3150               |
|                                 | P17-CO | 1000          | 2100   | 1800×1500                        | 2340×2295           | 4830×2295          | 7320×2295          | 9810×2295             | 2700×3150             | 5200×3150            | 8050×3150            | 10550×3150              |
|                                 | P20-CO | 1000          | 2100   | 2000×1500                        | 2540×2295           | 5230×2295          | 7920×2295          | 10610×2295            | 2900×3150             | 5600×3150            | 8650×3150            | 11350×3150              |
|                                 | P24-CO | 1100          | 2100   | 2000×1700                        | 2540×2495           | 5230×2495          | 7920×2495          | 10610×2495            | 2900×3250             | 5600×3250            | 8650×3250            | 11350×3250              |
|                                 | P27-CO | 1200          | 2100   | 2100×1750                        | 2640×2545           | 5430×2545          | 8220×2545          | 11010×2545            | 3050×3250             | 5900×3250            | 9100×3250            | 11950×3250              |

\* In order to prevent noise in the car for a single-shaft elevator with a speed of 180 m/min or greater, increase the dimensions of the shaft X and machine room MA.  
 \*\* In order to prevent noise in the car for a double-shaft elevator with a speed of 210 m/min or greater, increase the dimensions of the shaft X and machine room MA.  
 Note: Please contact us for detailed dimensions.

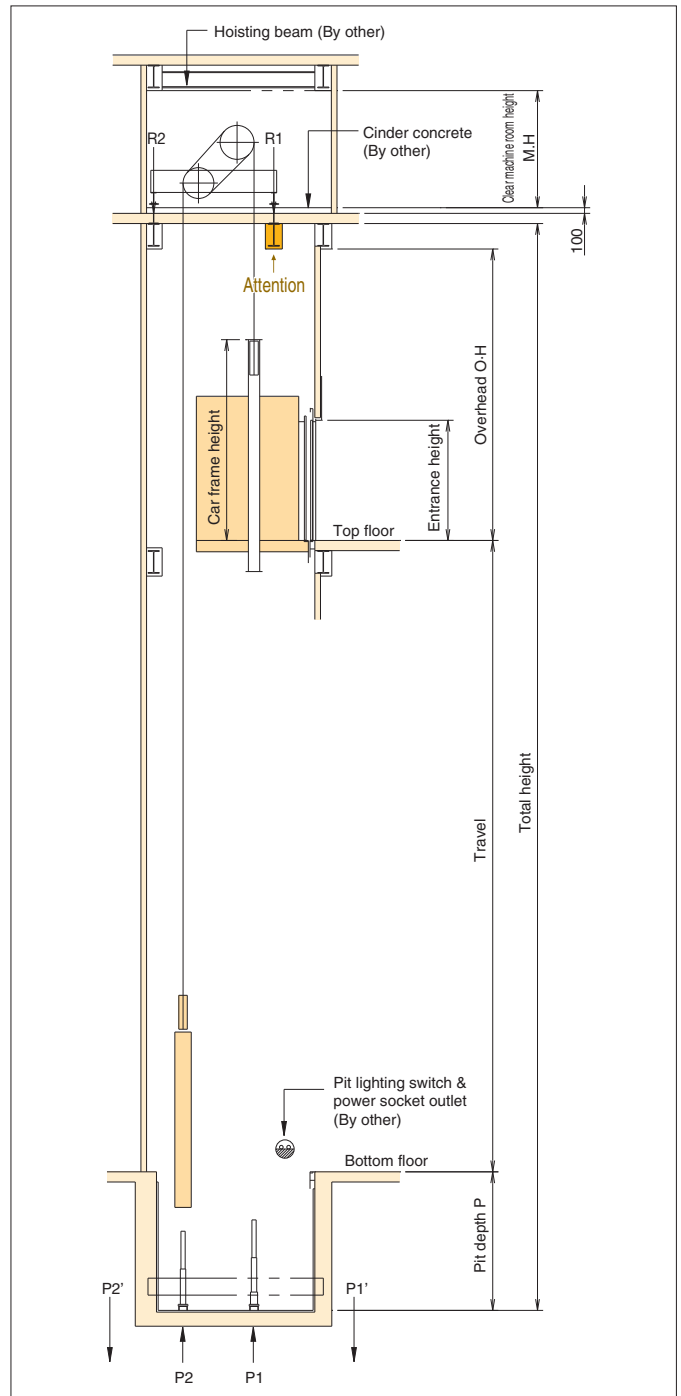
# Installation plan / Power facility plan

## 3 Hoistway section

### ■ Hoistway section <Standard type>



### ■ Hoistway section <Compact machine room type>



**Note :**

When car safety is suddenly actuated or when car strikes against buffers during high-speed operation, the counterweight will jump up. Likewise when the counterweight safety (where provided) is actuated or when it strikes the buffer, the car will also jump up. Hence for the elevators with speed of 240m/min or higher, tie-down safety device is provided at the compensating sheave to reduce the jumping effect of the car and counterweight by absorbing the jumping energy into the springs of the tie-down safety and elastic strain energy of the compensating ropes.

## ■ Shaft & Machine room dimensions (Cross section dimensions)

| Rated speed<br>(m/min) | Overhead |       | Pit depth | Clear machine<br>room height |
|------------------------|----------|-------|-----------|------------------------------|
|                        | O.H.(mm) |       | P(mm)     | M.H(mm)                      |
|                        | P9,P13   | Other |           |                              |
| 120                    | 5950     | 5350  | 2150      | 2250                         |
| 150                    | 6150     | 5550  | 2450      |                              |
| 180                    | 6450     | 5850  | 2750      |                              |
| 210                    | 6850     | 6250  | 3250      |                              |
| 240                    | 7450     | 6850  | 3850      |                              |

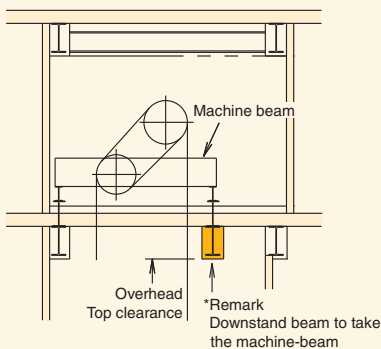
Note: Dimensions are displayed with a leeway of 50 mm.  
Impact force applied to machine-room reactive-force pit, force applied to tie-down safety, and force applied to machine-room ceiling trolley beam.

## ■ Machine room reaction, pit reaction, tie-down safety and hoisting beam load.

| Type   | Rated speed<br>(m/min) | Machine room<br>reaction load (kN) |         | Compact machine<br>room reaction load<br>(kN) |         | Pit reaction load<br>(kN) |         | Tie-down safety<br>reaction load<br>(kN) |          | Hoisting<br>beam<br>load<br>(kN) |
|--------|------------------------|------------------------------------|---------|---|---------|---------------------------|---------|--|----------|----------------------------------|
|        |                        | R1(Cage)                           | R2(C/W) | R1(Cage)                                      | R2(C/W) | P1(Cage)                  | P2(C/W) | P1'(Cage)                                | P2'(C/W) |                                  |
| P9-CO  | 120                    | 95.5                               | 132.5   | 134.0   | 94.0    | 194.0                     | 172.5   | -  | -        | 54.0                             |
|        | 150                    |                                    |         |   |         | 195.5                     | 173.5   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          |                                  |
|        | 210                    |                                    |         |   |         | 19.0                      | 35.0    |  |          |                                  |
| P13-CO | 120                    | 106.0                              | 147.0   | 153.0   | 99.5    | 211.5                     | 184.0   | -  | -        |                                  |
|        | 150                    |                                    |         |   |         | 220.0                     | 192.5   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          |                                  |
|        | 210                    |                                    |         |   |         | 22.0                      | 46.5    |  |          |                                  |
| P15-CO | 120                    | 107.5                              | 150.5   | 157.5   | 100.5   | 225.0                     | 195.5   | -  | -        |                                  |
|        | 150                    |                                    |         |   |         | 226.0                     | 196.5   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          |                                  |
|        | 210                    |                                    |         |   |         | 20.0                      | 48.5    |  |          |                                  |
| P17-CO | 120                    | 110.5                              | 154.5   | 162.5   | 102.5   | 232.5                     | 200.5   | -  | -        |                                  |
|        | 150                    |                                    |         |   |         | 234.0                     | 201.5   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          | 240.5                            |
|        | 210                    |                                    |         |   |         | 21.0                      | 48.5    |  |          |                                  |
| P20-CO | 120                    | 115.0                              | 161.0   | 168.5   | 107.5   | 244.5                     | 208.5   | -  | -        |                                  |
|        | 150                    |                                    |         |   |         | 245.5                     | 209.5   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          | 252.0                            |
|        | 210                    |                                    |         |   |         | 20.5                      | 50.0    |  |          |                                  |
| P24-CO | 120                    | 123.5                              | 173.0   | 183.0   | 113.5   | 265.5                     | 224.5   | -  | -        |                                  |
|        | 150                    |                                    |         |   |         | 266.5                     | 225.5   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          | 273.5                            |
|        | 210                    |                                    |         |   |         | 22.5                      | 61.5    |  |          |                                  |
| P27-CO | 120                    | 128.5                              | 179.0   | 190.0   | 117.5   | 277.5                     | 232.0   | -  | -        |                                  |
|        | 150                    |                                    |         |   |         | 278.5                     | 233.0   |  |          |                                  |
|        | 180                    |                                    |         |   |         |                           |         |  |          | 285.0                            |
|        | 210                    |                                    |         |   |         | 21.5                      | 63.0    |  |          |                                  |

Values may differ slightly, depending on car design and car-room size.  
Please contact us for details.

## ■ Attention <Compact machine room type>



- ① Provision of a downstand beam is necessary to take the loading
- ② Please ensure sufficient clearance for overhead and top clearance
- ③ Please consult the structural engineer on the design of the downstand beam.
- ④ Downstand beam to be provided by others.

# Installation plan / Power facility plan

## 4 Power facility plan

### Power facility plan for 9 to 27 passenger

#### ■ Single elevator use (1 line per elevator) 380v-60Hz

| Model  | Rated speed (m/min) | Motor capacity (kW) | Motor source capacity (kVA) | Non-fuse circuit breaker (A) | Total applicable length of the power source line (m) |                      |                       |                       |                       | Grounding line size (mm <sup>2</sup> ) | Heat generation (W) |
|--------|---------------------|---------------------|-----------------------------|------------------------------|--|----------------------|-----------------------|-----------------------|-----------------------|--|---------------------|
|        |                     |                     |                             |                              | 5.5 (mm <sup>2</sup> )                               | 8 (mm <sup>2</sup> ) | 14 (mm <sup>2</sup> ) | 22 (mm <sup>2</sup> ) | 38 (mm <sup>2</sup> ) |  |                     |
| P9-CO  | 120                 | 8                   | 14                          | 40                           | 58   | 90                   | 160                   | 250                   | 423                   | 3.5                                    | 2050                |
|        | 150                 | 10                  | 16                          | 40                           | 46   | 71                   | 126                   | 198                   | 334                   | 3.5                                    | 2600                |
|        | 180                 | 12                  | 18                          | 40                           | 38   | 58                   | 104                   | 163                   | 276                   | 3.5                                    | 3100                |
|        | 210                 | 14                  | 20                          | 50                           | 32   | 50                   | 90                    | 141                   | 238                   | 3.5                                    | 3600                |
|        | 240                 | 16                  | 22                          | 50                           | 28   | 44                   | 78                    | 122                   | 207                   | 3.5                                    | 4100                |
| P13-CO | 120                 | 12                  | 18                          | 40                           | 50   | 77                   | 138                   | 215                   | 364                   | 3.5                                    | 3100                |
|        | 150                 | 14                  | 21                          | 50                           | 39   | 61                   | 109                   | 170                   | 288                   | 3.5                                    | 3850                |
|        | 180                 | 18                  | 25                          | 60                           | 33   | 51                   | 91                    | 142                   | 241                   | 5.5                                    | 4600                |
|        | 210                 | 20                  | 28                          | 60                           | -  | 40                   | 77                    | 120                   | 203                   | 5.5                                    | 5400                |
|        | 240                 | 22                  | 31                          | 75                           | -  | 35                   | 67                    | 105                   | 177                   | 5.5                                    | 6150                |
| P15-CO | 120                 | 12                  | 19                          | 50                           | 48   | 74                   | 133                   | 208                   | 351                   | 3.5                                    | 3450                |
|        | 150                 | 16                  | 23                          | 50                           | 38   | 58                   | 104                   | 163                   | 276                   | 3.5                                    | 4300                |
|        | 180                 | 18                  | 27                          | 60                           | -  | 45                   | 86                    | 135                   | 228                   | 5.5                                    | 5150                |
|        | 210                 | 22                  | 30                          | 75                           | -  | 38                   | 74                    | 115                   | 195                   | 5.5                                    | 6000                |
|        | 240                 | 24                  | 34                          | 75                           | -  | -                    | 59                    | 99                    | 168                   | 5.5                                    | 6850                |
| P17-CO | 120                 | 14                  | 22                          | 50                           | 45   | 70                   | 124                   | 195                   | 329                   | 3.5                                    | 3950                |
|        | 150                 | 18                  | 26                          | 60                           | -  | 52                   | 99                    | 155                   | 262                   | 5.5                                    | 4900                |
|        | 180                 | 22                  | 30                          | 60                           | -  | 42                   | 81                    | 128                   | 216                   | 5.5                                    | 5900                |
|        | 210                 | 26                  | 34                          | 75                           | -  | -                    | 64                    | 108                   | 183                   | 5.5                                    | 6850                |
|        | 240                 | 28                  | 38                          | 100                          | -  | -                    | 55                    | 93                    | 158                   | 5.5                                    | 7850                |
| P20-CO | 120                 | 18                  | 25                          | 60                           | 41   | 65                   | 115                   | 180                   | 305                   | 5.5                                    | 4600                |
|        | 150                 | 22                  | 29                          | 60                           | -  | 47                   | 91                    | 142                   | 241                   | 5.5                                    | 5750                |
|        | 180                 | 26                  | 34                          | 75                           | -  | -                    | 70                    | 118                   | 199                   | 5.5                                    | 6900                |
|        | 210                 | 30                  | 39                          | 100                          | -  | -                    | 60                    | 101                   | 171                   | 5.5                                    | 8050                |
|        | 240                 | 34                  | 44                          | 100                          | -  | -                    | 51                    | 86                    | 146                   | 5.5                                    | 9200                |
| P24-CO | 120                 | 20                  | 28                          | 60                           | -  | 55                   | 106                   | 166                   | 280                   | 5.5                                    | 5450                |
|        | 150                 | 24                  | 34                          | 75                           | -  | -                    | 77                    | 130                   | 220                   | 5.5                                    | 6850                |
|        | 180                 | 30                  | 40                          | 100                          | -  | -                    | 64                    | 107                   | 182                   | 5.5                                    | 8200                |
|        | 210                 | 34                  | 45                          | 125                          | -  | -                    | 54                    | 91                    | 153                   | 8                                      | 9550                |
|        | 240                 | 40                  | 51                          | 125                          | -  | -                    | 46                    | 78                    | 133                   | 8                                      | 10900               |
| P27-CO | 120                 | 22                  | 31                          | 75                           | -  | 52                   | 100                   | 157                   | 266                   | 5.5                                    | 6150                |
|        | 150                 | 28                  | 38                          | 100                          | -  | -                    | 73                    | 122                   | 207                   | 5.5                                    | 7700                |
|        | 180                 | 34                  | 44                          | 100                          | -  | -                    | 59                    | 100                   | 170                   | 5.5                                    | 9200                |
|        | 210                 | 38                  | 51                          | 125                          | -  | -                    | 51                    | 85                    | 145                   | 8                                      | 10750               |
|        | 240                 | 44                  | 57                          | 125                          | -  | -                    | -                     | 69                    | 125                   | 8                                      | 12300               |