

TOSHIBA

Leading Innovation >>>

New ELBRIGHT

TOSHIBA **HIGH SPEED** ELEVATORS

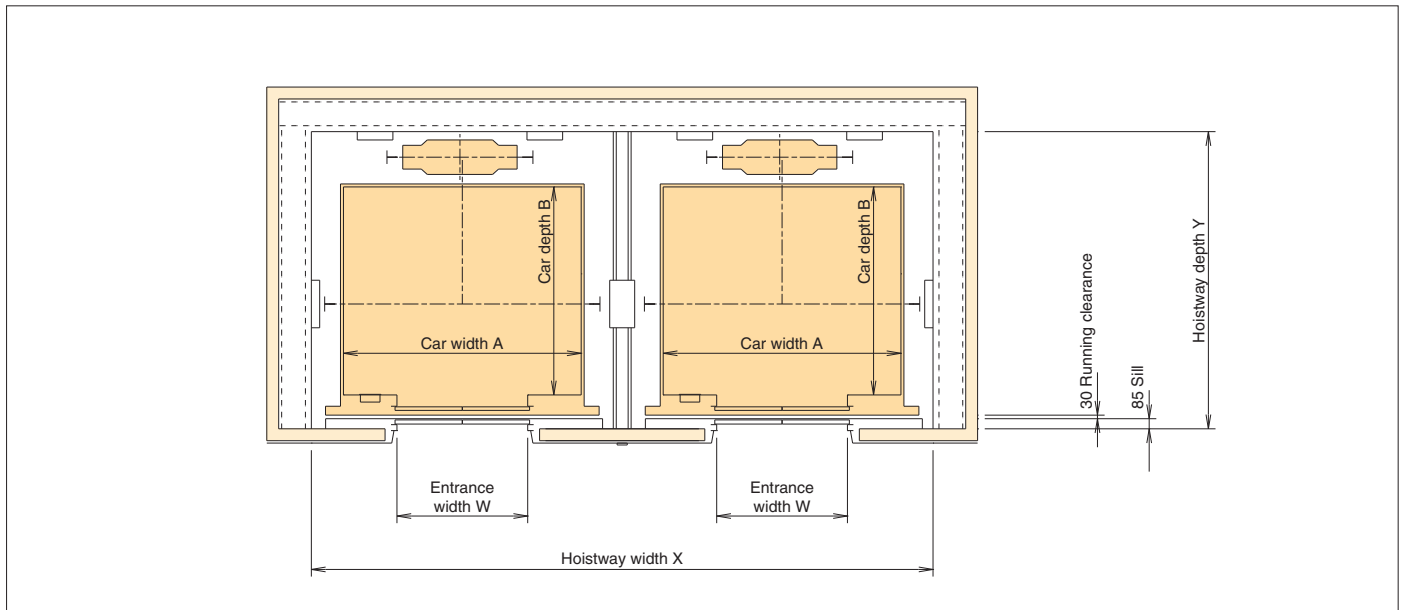
Installation plan and power facility plan for *Singapore*

Installation plan / Power facility plan

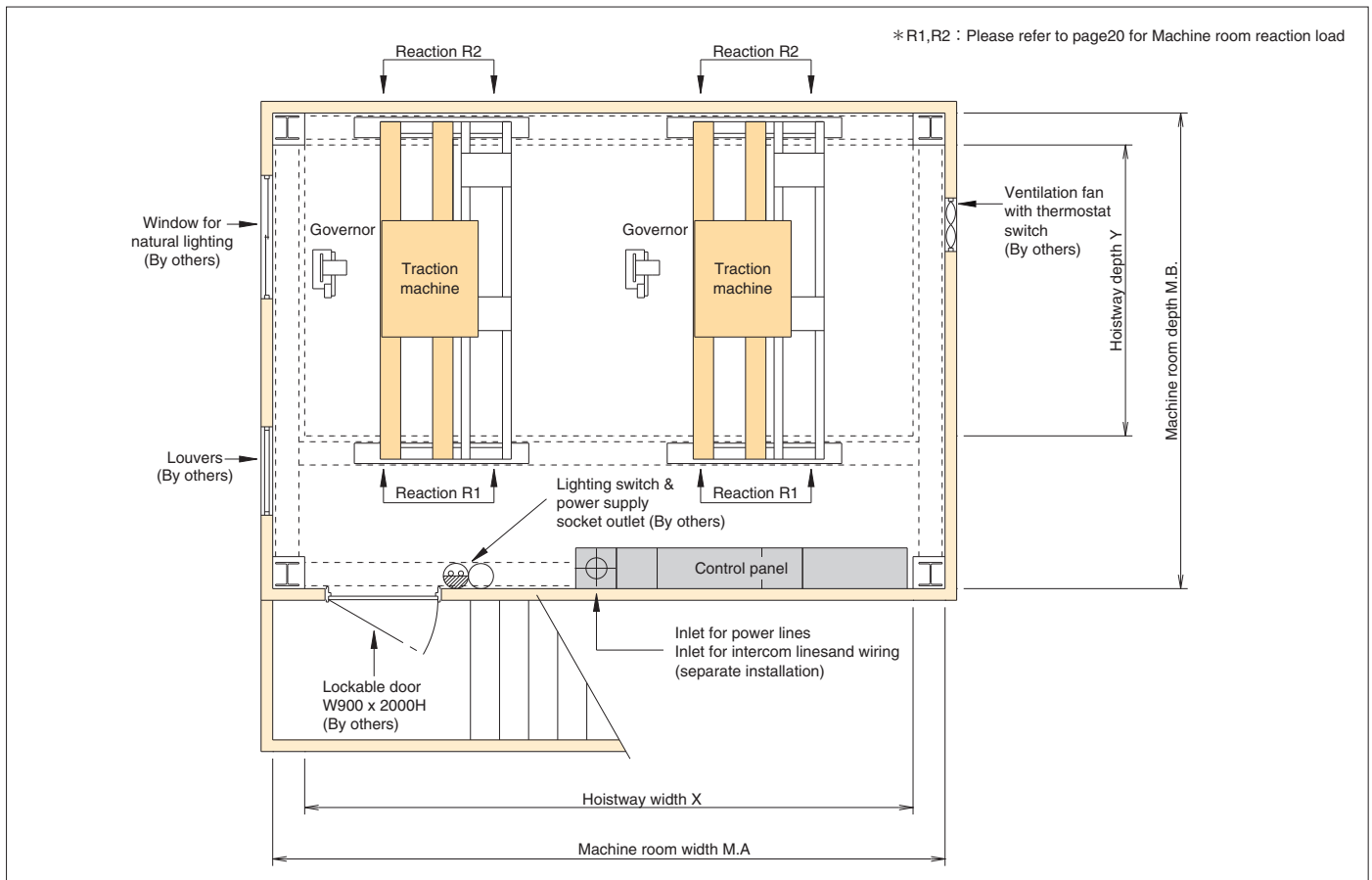
1 Installation plan <Standard type>

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
120 150 180 210 240	P9-CO	800	2100	1400×1150	1940×1945	4030×1945	6120×1945	8210×1945	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	1600×1550	2140×2345	4430×2345	6720×2345	9010×2345	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	2000×1550	2540×2345	5230×2345	7920×2345	10610×2345	2900×3800	5600×3800	8650×3800	11350×3800
	P24-CO	1100	2100	2000×1800	2540×2595	5230×2595	7920×2595	10610×2595	2900×4000	5600×4000	8650×4000	11350×4000
	P27-CO	1200	2100	2100×1900	2640×2695	5430×2695	8220×2695	11010×2695	3050×4050	5900×4050	9100×4050	11950×4050

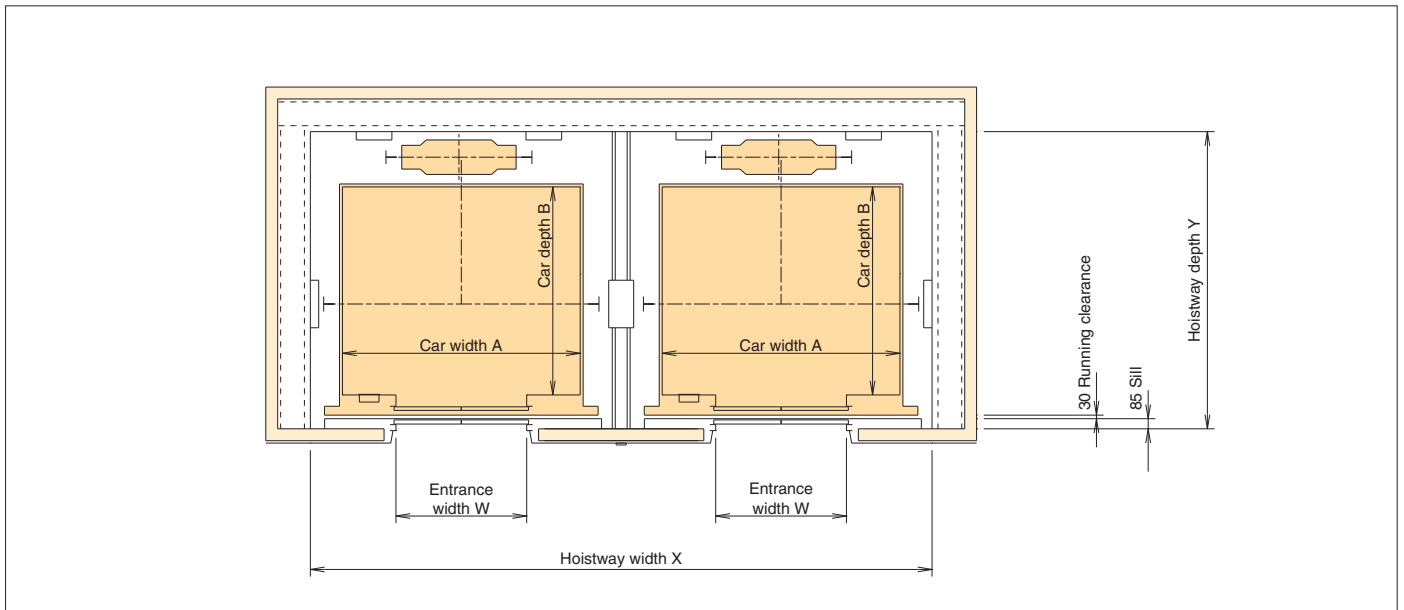
* In order to prevent noise in the car for a single-shaft elevator with a speed of 180 m/min or greater, increase the dimensions of the shaft X and machine room MA.
 ** In order to prevent noise in the car for a double-shaft elevator with a speed of 210 m/min or greater, increase the dimensions of the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

Installation plan / Power facility plan

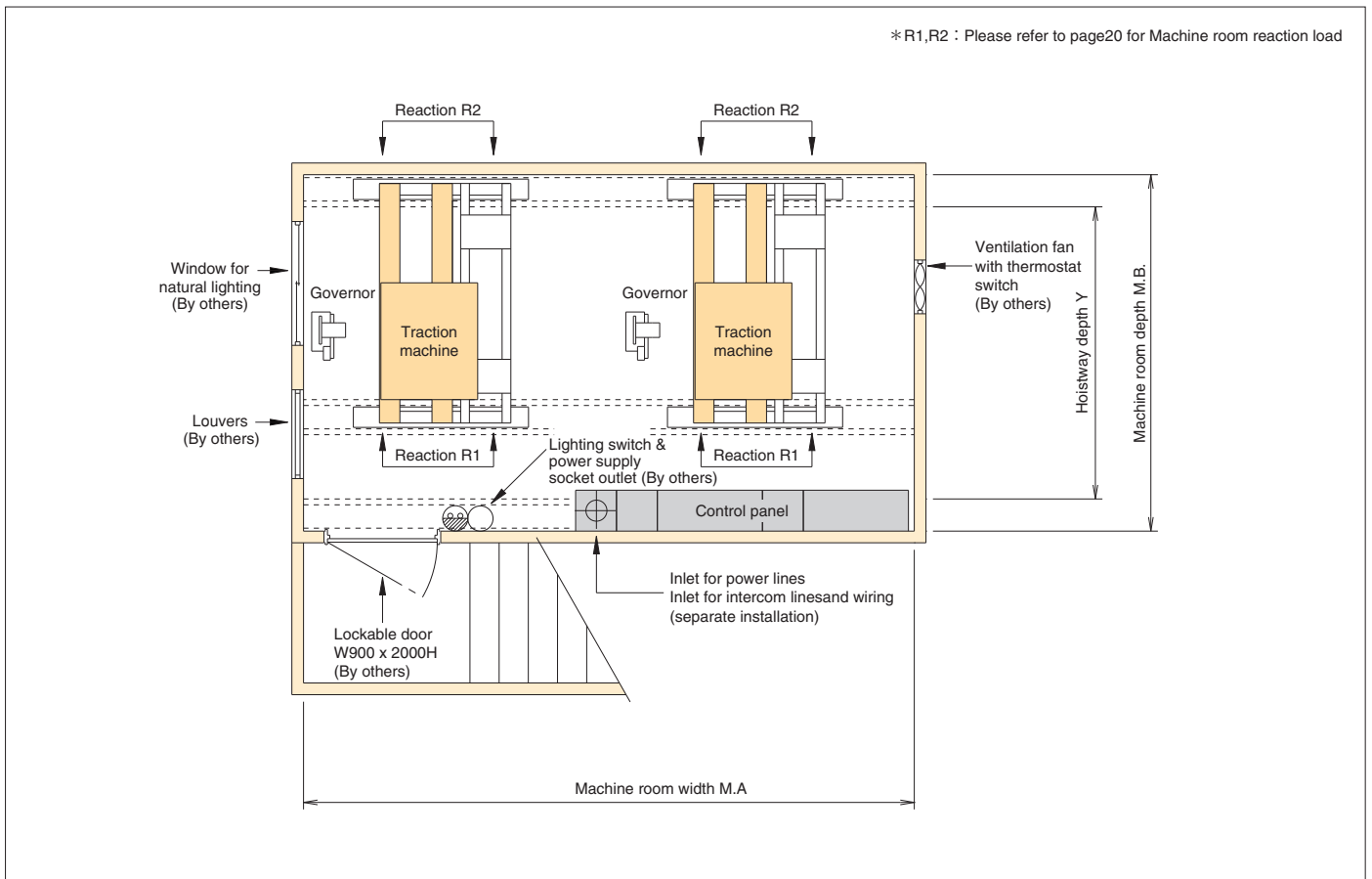
2 Installation plan <Compact machine room type>

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
120 150 180 210 240	P9-CO	800	2100	1400×1150	1940×1945	4030×1945	6120×1945	8210×1945	2100×2850	4230×2850	6370×2850	8610×2850
	P13-CO	900	2100	1600×1350	2140×2145	4430×2145	6720×2145	9010×2145	2250×2950	4430×2950	6720×2950	9010×2950
	P15-CO	900	2100	1600×1550	2140×2345	4430×2345	6720×2345	9010×2345	2250×3050	4430×3050	6720×3050	9010×3050
	P17-CO	1000	2100	1800×1500	2340×2295	4830×2295	7320×2295	9810×2295	2700×3050	5200×3050	8050×3050	10550×3050
	P20-CO	1000	2100	2000×1550	2540×2345	5230×2345	7920×2345	10610×2345	2900×3050	5600×3050	8650×3050	11350×3050
	P24-CO	1100	2100	2000×1800	2540×2595	5230×2595	7920×2595	10610×2595	2900×3050	5600×3200	8650×3200	11350×3200
	P27-CO	1200	2100	2100×1900	2640×2695	5430×2695	8220×2695	11010×2695	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.

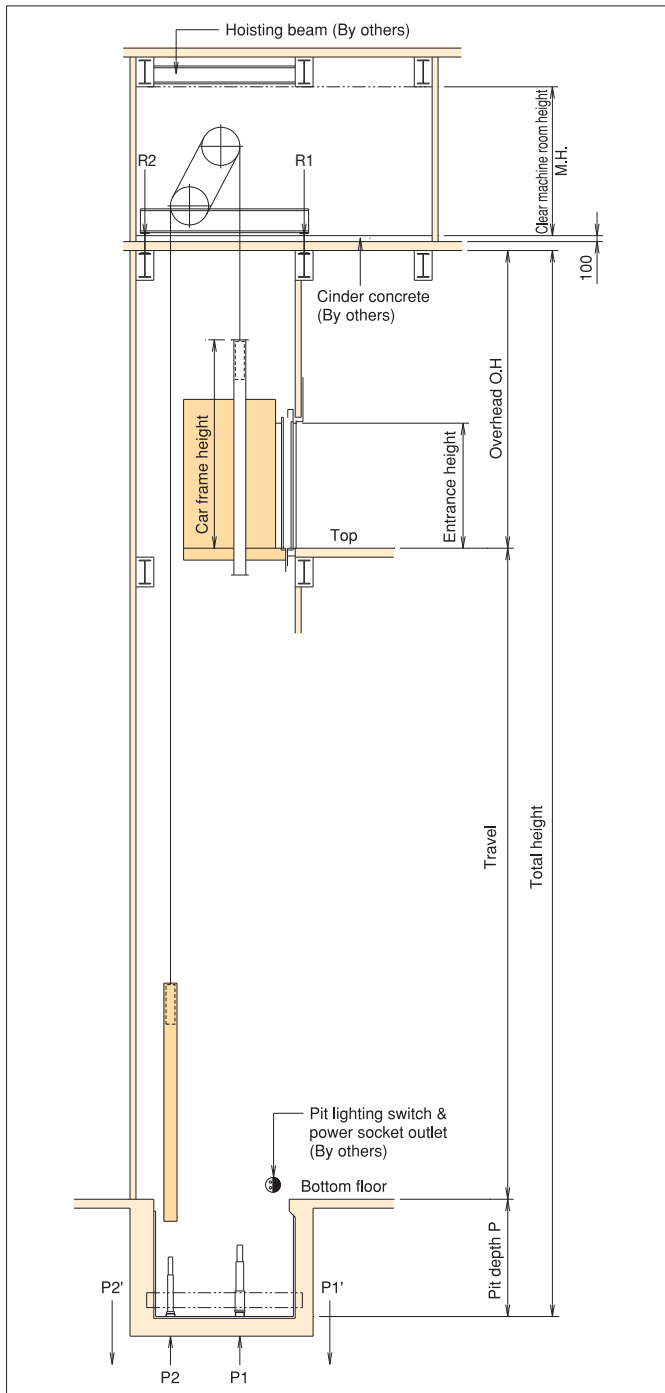
** In order to prevent noise in the car for a double-shaft elevator with a speed of 210 m/min or greater, increase the dimensions of the shaft X and machine room MA.

Note: Please contact us for detailed dimensions.

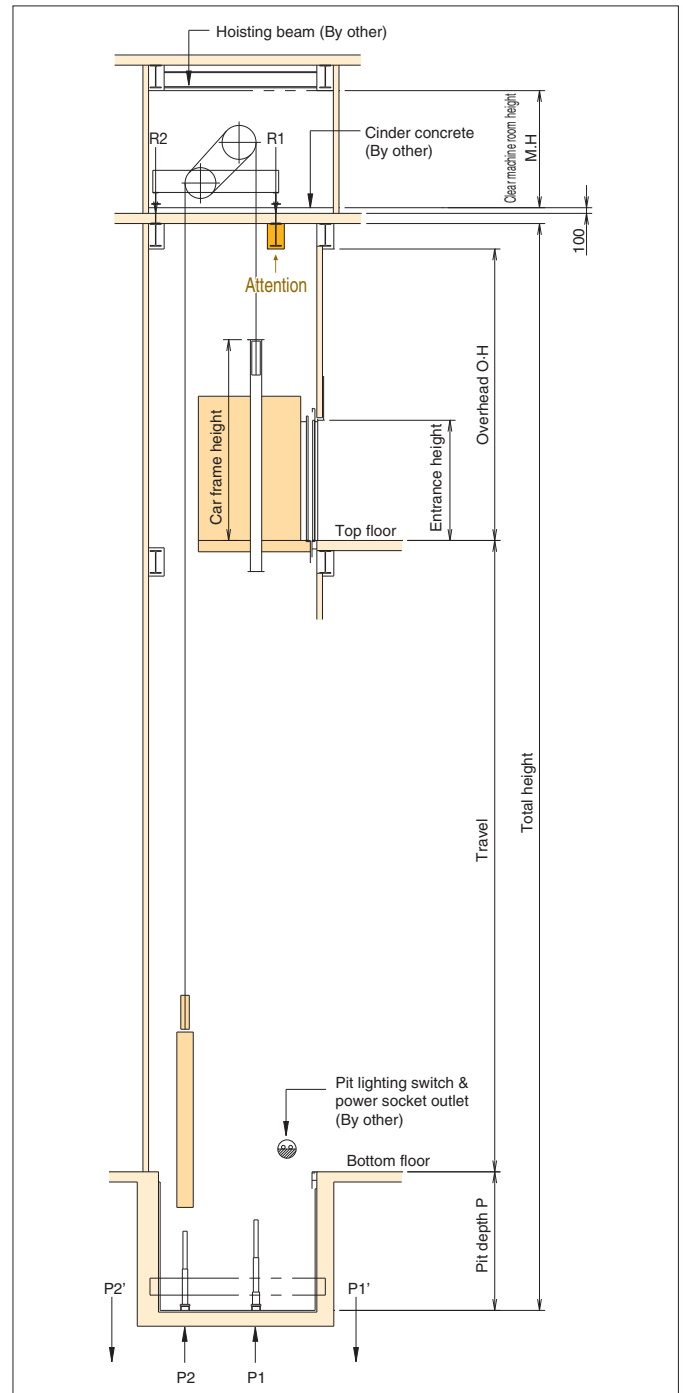
Installation plan / Power facility plan

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 (m/min)	Overhead	Pit depth	Clear machine room height
	O.H.(mm)	P(mm)	M.H(mm)
120	5800	2150	2450
150	5950	2450	
180	6400	2750	
210	6800	3250	
240	7300	3850	

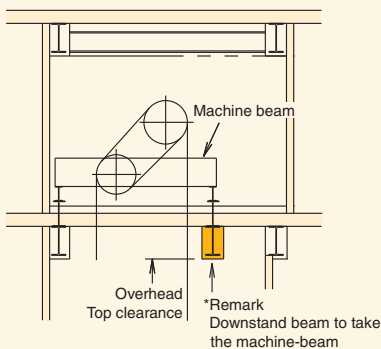
Note: Dimensions are displayed with a leeway of 50 mm.
Impact force applied to machine-room reactive-force pit, force applied to tie-down safety, and force applied to machine-room ceiling trolley beam.

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

Type	Rated speed (m/min)	Machine room reaction load (kN)		Compact machine room reaction load (kN)		Pit reaction load (kN)		Tie-down safety reaction load (kN)		Hoisting beam load (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									
P13-CO	120	106.0	147.0	153.0	99.5	211.5	184.0	-	-	
	150					220.0	192.5			
	180									
	210									
P15-CO	120	107.5	150.5	157.5	100.5	225.0	195.5	-	-	
	150					226.0	196.5			
	180									
	210									
P17-CO	120	110.5	154.5	162.5	102.5	232.5	200.5	-	-	
	150					234.0	201.5			
	180									
	210									
P20-CO	120	113.5	159.0	167.0	105.5	240.5	208.0	21.0	48.5	
	150					244.5	208.5			
	180									
	210									
P24-CO	120	118.0	165.5	173.0	110.5	252.0	216.0	20.5	50.0	
	150					265.5	224.5			
	180									
	210									
P27-CO	120	126.5	178.0	188.0	116.5	273.5	232.0	22.5	61.5	
	150					266.5	225.5			
	180									
	210									
P27-CO	120	128.5	179.0	190.0	117.5	277.5	232.0	-	-	
	150					278.5	233.0			
	180									
	210									
P27-CO	240	131.5	183.5	194.5	121.0	285.0	240.0	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) 400v-50Hz

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 ²)	Heat generation (W)
					5.5 (mm ²)	8 (mm ²)	14 (mm ²)	22 (mm ²)	38 (mm ²)		
P9-CO	120	8	14	40	63	99	176	275	465	3.5	2050
	150	10	16	40	50	78	140	219	370	3.5	2600
	180	12	18	40	42	65	116	182	307	3.5	3100
	210	14	20	50	36	56	99	155	263	3.5	3600
	240	16	22	50	31	49	87	136	230	3.5	4100
P13-CO	120	12	18	40	55	86	153	239	404	3.5	3100
	150	14	21	50	44	68	121	190	321	3.5	3850
	180	18	25	50	36	56	101	157	266	3.5	4600
	210	20	28	60	-	44	85	133	225	5.5	5400
	240	22	31	60	-	38	74	116	196	5.5	6150
P15-CO	120	12	19	50	52	81	145	226	383	3.5	3450
	150	16	23	50	41	64	115	179	303	3.5	4300
	180	18	27	60	34	53	95	148	251	5.5	5150
	210	22	30	60	-	42	82	128	216	5.5	6000
	240	24	34	75	-	-	65	110	186	5.5	6850
P17-CO	120	14	22	50	50	77	138	215	364	3.5	3950
	150	18	26	60	40	62	110	172	291	5.5	4900
	180	22	30	60	-	47	91	142	240	5.5	5900
	210	26	34	75	-	-	71	120	204	5.5	6850
	240	28	38	100	-	-	61	103	174	5.5	7850
P20-CO	120	18	25	50	46	72	129	202	341	3.5	4600
	150	22	29	60	-	52	101	157	266	5.5	5750
	180	26	34	75	-	-	77	130	220	5.5	6900
	210	30	39	100	-	-	66	112	190	5.5	8050
	240	34	44	100	-	-	56	95	161	5.5	9200
P24-CO	120	20	28	60	-	60	116	182	307	5.5	5450
	150	24	34	75	-	-	85	143	242	5.5	6850
	180	30	40	100	-	-	70	118	200	5.5	8200
	210	34	45	100	-	-	60	101	170	5.5	9550
	240	40	51	125	-	-	51	87	147	8	10900
P27-CO	120	22	31	60	-	57	110	172	291	5.5	6150
	150	28	38	75	-	-	80	134	227	5.5	7700
	180	34	44	100	-	-	66	111	188	5.5	9200
	210	38	51	125	-	-	56	94	159	8	10750
	240	44	57	125	-	-	-	76	138	8	12300