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CITY LIFTS

Altivate Rise

SERVICE LIFTS

TECHNICAL MANUAL

- **Altivate** — Commercial Passenger Lifts
- **Altivate Interior** — Lift Interiors
- **Altivate Renew** — Lift Modernisation
- **Altivate Rise** — Goods Only / Service Lifts
- **Altivate Mobility** — Wheelchair / Access Lifts
- **Altivate Move** — Escalators / Travelators
- **Altivate Park** — Car Stackers
- **Altivate Design** — Design / Consult
- **Altivate Action** — Service / Repair / Maintain

Concept to Completion

Flexibility in Design & Personalised Service

Contents

BASIC DESCRIPTION

APPLICATION

The **MINI** provides vertical transport of small loads in the Industry and Trade fields; specifically you can use it for:

- Dumbwaiter (in bars, cafeterias, restaurants, ...)
- Documents-lift (in offices, banks, ...)
- Books-lift (in libraries, bookshops, ...)
- Instruments-lift (in clinics, hospitals, ...)

The **MAXI** provides vertical transport of medium loads for the industry and services sectors. The stop level is even with the wooden floor so as to ensure easy loading of both goods and trolleys. This lift may operate as:

- Trolley-lift (in laundries, hotels, ...)
- Goods-lift (in stores, shops, ...)

REGULATIONS

The lifts fully comply with Machine Directive 98/37/CE.

CHARACTERISTICS

LOAD

The maximum load depends on the lift model. See list below:

Model		Maximum Load (Kg)
MINI	Electric	50-100
MINI	Hydraulic	50-100
MAXI	Electric	200, 300, 400 and 500
MAXI	Hydraulic	200, 300, 400 and 500

SPEED

MINI

Hydraulic 0.35 m/s,

Electric 0.35 m/s,

MAXI

Hydraulic 0.2 m/s or 0.3 m/s

Electric 0.35 m/s,

TRAVEL

MINI

Hydraulic 2:1 up to 8 metres, 4:1 up to 16 metres.

Electric Up to 35 metres

MAXI

Hydraulic Up to 12 metres

Electric Up to 35 metres

STOPS

MINI

Up to 12 stops

MAXI

Up to 12 stops

TYPE OF DRIVE

MINI

Hydraulic, Indirect acting lift 2:1 or 4:1

Cylinder with plunger by means of a deflection pulley system located in the head of the cylinder A safety valve against pipe rupture may also be supplied (available on request). Compact power unit made up of oil tank, motor-pump group and block with safety and control devices. Dimensions: 200x300x420 mm

Electric By traction, using counterweight pulleys. Geared motor in the top of the shaft. Worm gear unit driving by electric motor with brake system.

MAXI

Hydraulic Indirect acting lift 2:1

Cylinder, single acting cylinder with internal catch, with safety valve if pipe is broken connected directly to the cylinder. Possibility of rupture valve with progressive closing and external adjustment - optional, must be ordered. Plunger formed by a solid, chromium - plated piston rod. Steel Fe 510 C. Jacket formed by a tube of the appropriate thickness. DIN 2391 tube with BK finish, St-52 steel. Hydraulic power unit, compact power unit made up of oil tank, motor-pump group and block with safety and control devices.

Electric By traction, using counterweight pulleys. Geared motor in the top of the shaft. Worm gear unit driving by electric motor with brake system.

PIPING

MAXI

For hydraulic operation.

Rigid pipe tubes as per DIN 2391, material steel St-37.4 (NBK) – 3m standard.

Flexible, hydraulic hoses with double metallic mesh, tested with couplings fitted – optional on demand

GUIDES

MINI

By 2 rails T65/A in accordance with ISO 7465

MAXI

By 2 rails T65/A in accordance with ISO 7465

SUSPENSION

MINI

Hydraulic With one (4:1) or two (2:1) cables of 5 mm of diameter, format 6x37+1, break force 14.0 kN (1770 N/mm)

Electric Cables format 6x19+1
2 x 6mm diam. Cables, break force 23.8KN (1770 N/mm²)

MAXI

Hydraulic Single line roller chains according to DIN 8187
200 kg & 300 kg 2 chains ½'', break force 18.2KN
400 kg & 500 kg 2 chains ½'', break force 18.2KN

Electric Cables format 6x19+1
200 kg & 300 kg 2 x 6mm diam. Cables, break force 23.8KN (1770 N/mm²)
400 kg & 500 kg 2 x 8mm diam. Cables, break force 34.8KN (1770 N/mm²)

CAR

FINISH Stainless Steel AISI-441, AISI-316 available (food applications)
Painted Steel Baked enamel (epoxy-polyester) paint
Standard colour: Light grey. Enchased texture (rough)

DIMENSIONS

MINI

Standard		Non-Standard			
A, B	**H**	**A, B min.**	**A, B max.**	**H min.**	**H max.**
x 50	800	350	700	500	900

A, B Car depth and width

H Car height

MAXI

Standard		Non-Standard			
A, B	**H**	**A, B min.**	**A, B max.**	**H min.**	**H max.**
x 50	1200	700	1200	800	1400

A, B Car depth and width

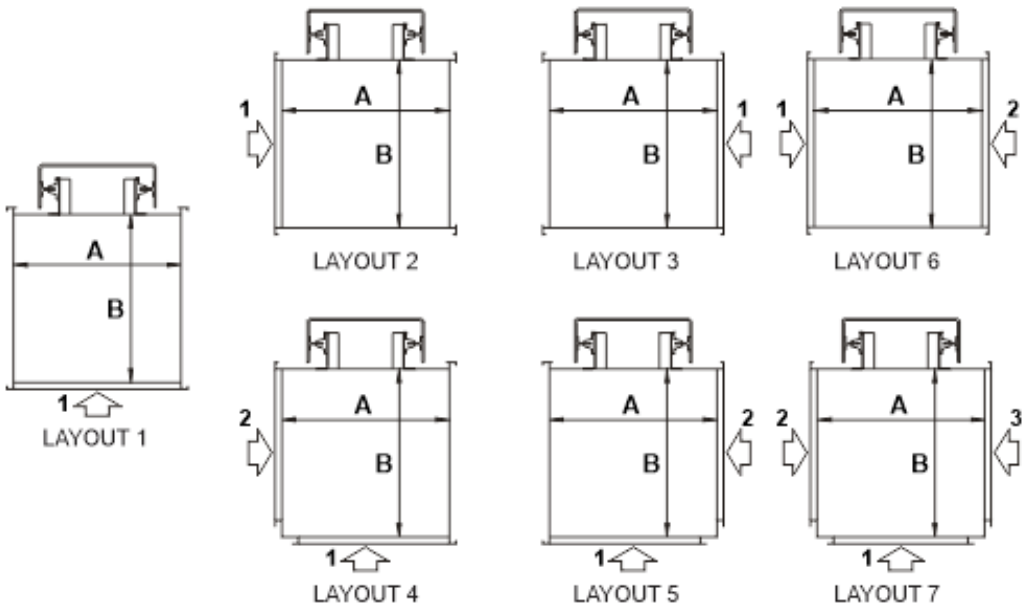
H Car height

ENTRANCE LAYOUTS

MINI

Standard Layouts 1,2, 3, 4, 5 and 6

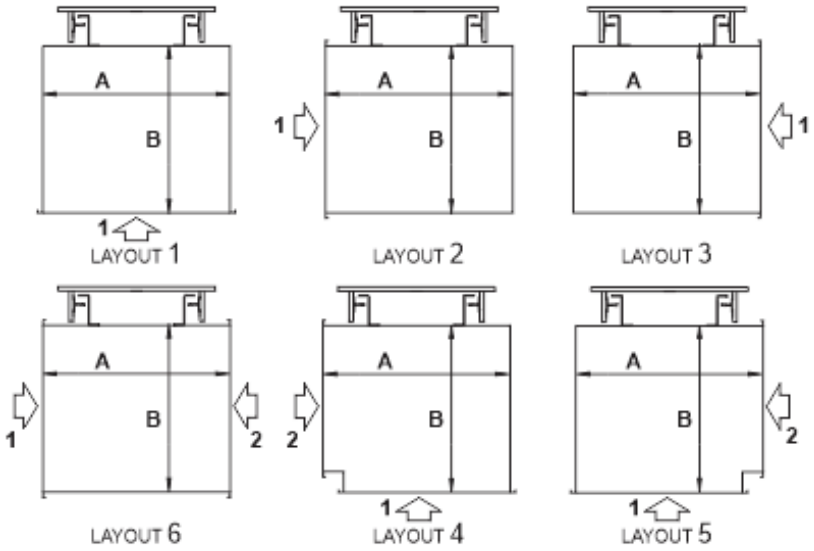
Special Layout 7



MAXI

Standard Layouts 1,2, 3, 4 and 6

Special Layout 5



Intermediate Trays

Collapsible intermediate trays of painted plate sheet or stainless steel (on request).

Car Doors

MINI

Manual, with two vertical-aperture leaves. Available on request.

20 mm door space, less than clear height of car.

For all 90° loading and unloading operations there are 100 mm doors, less than the width specified for the car.

MAXI

Drop bar avoiding moving of load out of the cabinet.

Sash or bellow-type grid doors available.

Landing Doors

MINI

Standard, manual, with two vertical aperture leaves. Collapsible doors also available.

MAXI

Swing hinged doors as standard supply; vertical bi-parting doors available. Our landing doors have mechanical locks with two electrical safety devices: Closed door contacts and lock contacts. We supply electrical cam (230V AC) for acting the landing door locks.

Finish

Stainless Steel	AISI-441, AISI-316 available (food applications)
Painted Steel	Baked enamel (epoxy-polyester) paint
	Standard colour: Light grey. Enchased texture (rough)

Dimensions

Clear opening according to entrances layout and car dimensions

Clear height is the same as car height (H).

Fire Rated

All swing hinged doors are fire rated (PF-60).

Fire rated vertical bi-parting doors available – optional, on demand

If the doors finish is painted steel they are supply with a fireproof priming paint.

Automatic Operation

Automatic opening of doors when the lift car arrives.

With pedal to call the lift car or open the door.

The door is closed stepping on the pedal or pushing the button corresponding the stop where the lift car is.

MAXI

Sash type available on request

Machine Room Door

MINI

Access to hydraulic power unit or motor gear.

Hinged door with unlocking triangle.

Dimensions: 500x500 mm. Standard finish baked enamel paint.

Minimum size in the shaft to install it according to Figure 1.

MAXI

Hydraulic No trapdoor, no hydraulic unit outside the shaft.

Electric Maintenance trapdoor in the top of the shaft. Single leaf door with standard setting triangle. Dimensions: 500x500 mm. Standard finish, epoxy-polyester paint. Minimum shaft dimensions for proper installation, see Figure 4.

POWER SUPPLY

230 V ± 5% Single-phase, 50/60 Hz.

230/400 V ± 5% Three-phase, 50/60 Hz.

Other voltages available.

CONTROL SYSTEM

Universal simplex by electrical control board with relays, delay current to 24 V.

Buttons panel in the landing doors with push-buttons for calling and sending to all floors; Light indicating engaged, position of lift and landing door open.

Acoustic signal on arrival.

MOTOR POWER

MINI

	50 kg	100 kg
Hydraulic, 230/400 V 3-phase	0.55 kW / 1.7 A	0.75 kW / 2.1 A
Hydraulic, 230 V Single phases	0.75 kW / 6.3 A	1.10 kW / 7.1 A
Electric, 230/400 V 3-phase	0.37 kW / 1.2 A	0.55 kW / 1.8 A
Electric, 230 V Single phases	0.37 kW / 3.1 A	0.55 kW / 4.5 A

MAXI

The maximum power installed and the maximum nominal consumption at 400, depending on load and nominal speed, are as follows

	200 kg	300 kg	400/500 kg
Hydraulic, 230/400 V 3-phase, v=0,2m/s	1.5 kW / 5.9 A	1.5 kW / 5.9 A	2.2 kW / 8.3 A
Hydraulic, 230/400 V 3-phase, v=0,3m/s	2.2 kW / 8.3 A	2.2 kW / 8.3 A	3.0 kW / 11.2 A
Hydraulic, 230 V Single phase, v=0,2m/s	1.5 kW / 9.8 A	2.0 kW / 14.5 A	-
Hydraulic, 230 V Single phase, v=0,3m/s	2.0 kW / 14.5 A	-	-
Electric, 230/400 V 3-phase	0.55 kW / 1.6 A	0.75 kW / 2.1 A	1.1 kW / 3.2 A
Electric, 230 V Single phase	0.55 kW / 4.5 A	0.75 kW / 6.0 A	1.1 kW / 7.0 A

INSTALLATION

FIXING THE GUIDE RAILS

FASTENING ON WALL (STANDARD)

Everything necessary for bracket mounting to one of the lift shaft walls is supplied; guide rail brackets attached by bolts to concrete or solid brick wall. For hollow brick walls allowances should be made for built-in metal supports to weld the brackets to, or the use of though-wall pegs if the wall is accessible from both sides. The reaction forces on the guide rails supports are specified in the assembly instructions.

WITH SELF SUPPORTING STRUCTURE (OPTIONAL)

Steel structure, it is painted with waterproof paint. It makes easy the fitting up and allows the enclosures of lift well without masonry work. Horizontal anchorages to the building are required.

ELECTRIC INSTALLATION

Button panels are supplied fitted in the landing doors frame. Pre-mounted and ready to plug in, interconnecting different floors by wires with connectors.

HYDRAULIC INSTALLATION

All the necessary piping and couplings are supplied to carry out hydraulic installation. In the case of rigid pipes, this is malleable enough to form any necessary bends, which is why elbow couplings to connect tubes are not supplied.

MACHINE ROOM

MINI

Hydraulic The power unit is envisaged to be placed into the shaft bellow the bottom level; to make a safety maintenance a door-trap should be fitted making easy the access to the power unit. If you do not order the machine room door-trap the power unit must be placed out the shaft and you should specify the required pipe length. Dimensions of central unit and control panel are 200x300x420 mm and 300x400x150 mm respectively.

Electric The motor gear is envisaged to be placed at the top into the shaft, in case of “fastening on wall” it will be supported by two proper beams. To make a safety maintenance a door-trap should be fitted making easy the access to the motor gear.

MAXI

Hydraulic It is envisaged that the hydraulic power unit shall be positioned no more than 10 metres from where oil inlet to the cylinder; consult us if a greater distance is required. The dimensions of the central unit and the panel are 390x245x600 mm and 300x400x150 mm respectively.

Electric the traction machine will be installed in the top of the shaft, on two beams when installed on a wall. For that purpose, a trapdoor must be installed so as to ensure access to the machine and carry out safe maintenance. For easier maintenance operations, the electric box should be located outside the shaft; an electric hose of sufficient length is provided for that purpose. The electric box measures 300 (length) x 400 (height) x 150 (depth).

SHAFT SIZE

Adapted to entrance layout, car dimensions, operating system and conveying structure option.

MODEL ITEM NUMBERS

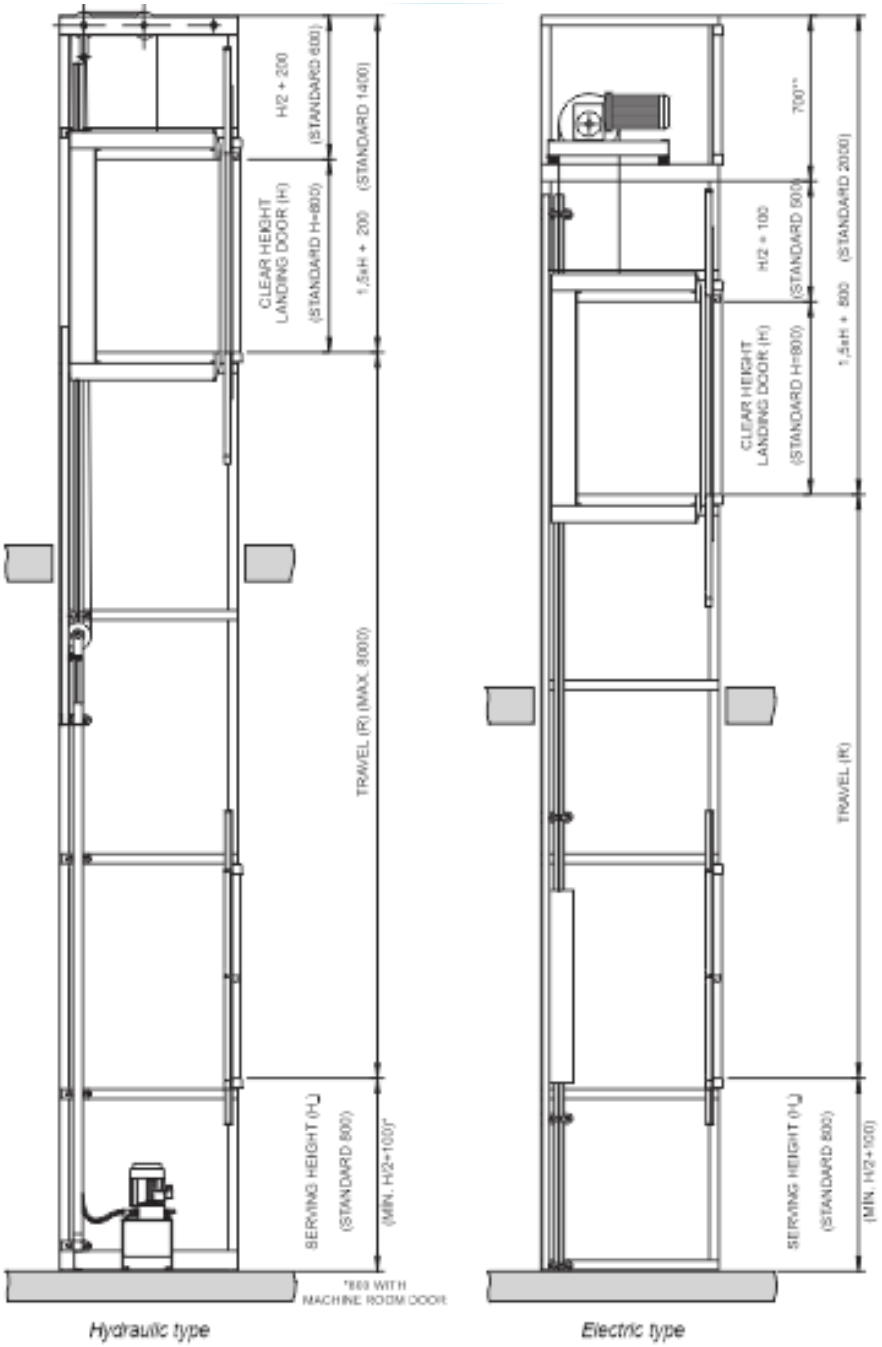
Item No	Type	Maximum Load (kg)
MINI		
6360	Electric	50-100
6301	Hydraulic	50-100
MAXI		
6370	Electric	200
6371	Electric	300
6372	Electric	400
6373	Electric	500
6374	Hydraulic	200
6375	Hydraulic	300
6376	Hydraulic	400
6377	Hydraulic	500

DRAWINGS

MINI MODEL.

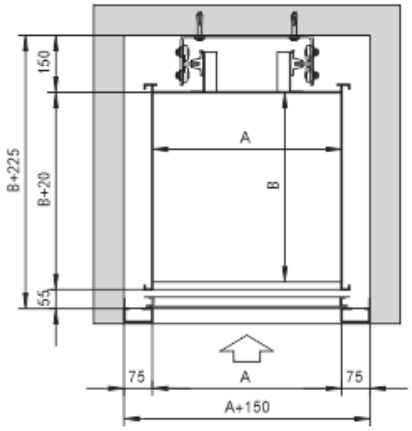
MINIMUM SHAFT DIMENSION MINI MODEL. FRONT VIEW.

Figure 1



MINIMUM SHAFT DIMENSION MINI MODEL. PLAN VIEW.

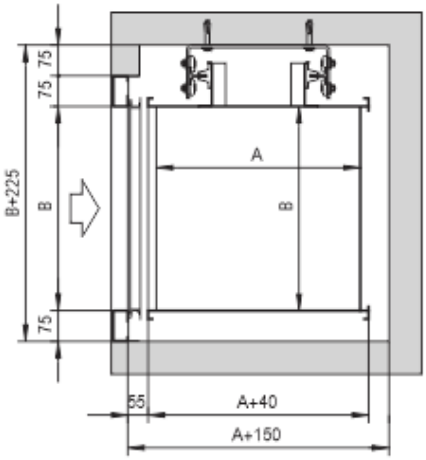
Figure 2 Without structure – fastening on wall.



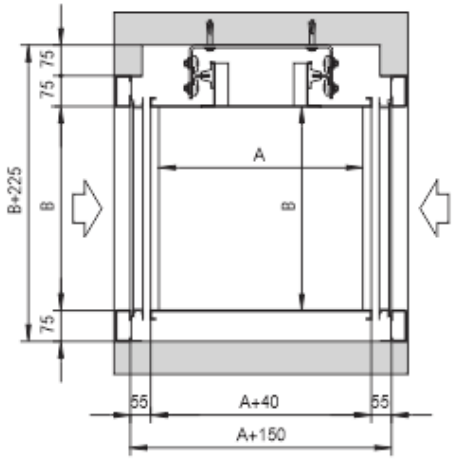
Layout 1

Layouts	Car Dimensions	Clear Car Dimensions		Minimum Shaft Size	
1	A, B	A	B+20	A+150	B+225
2, 3		A+20	B		
4, 5		A+20	B+20		
6		A+40	B		
7		A+20	B+20		

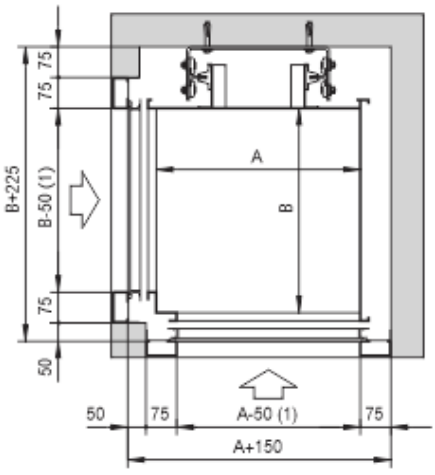
1. In case of car doors, B-100
2. In case of car doors, B-200



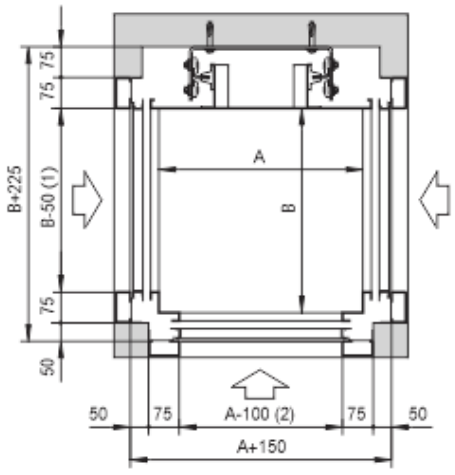
Layout 2-3



Layout 6



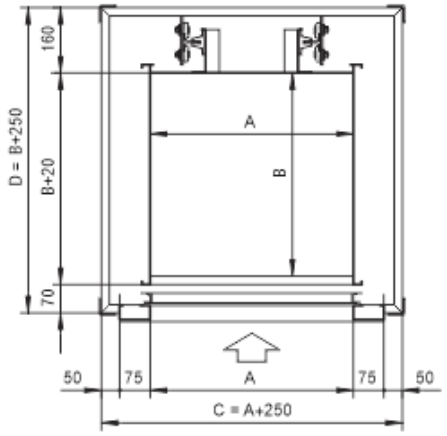
Layout 4-5



Layout 7

MINIMUM SHAFT DIMENSION MINI MODEL. PLAN VIEW.

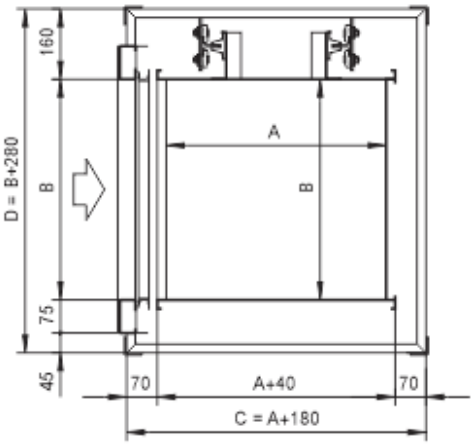
Figure 3 With self-supporting structure.



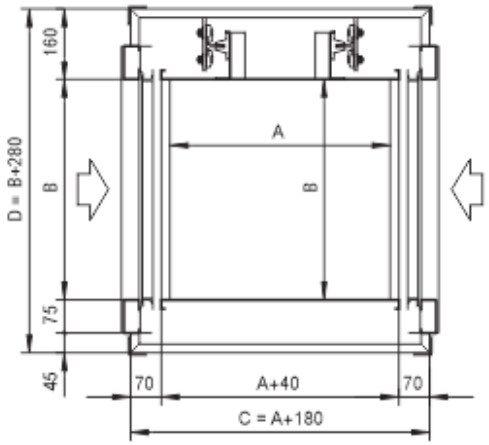
Layout 1

Layouts	Car Dimensions	Clear Car Dimensions		Minimum Shaft Size (C+30) x (D+30)	
1	A, B	A	B+20	A+280	B+280
2, 3		A+20	B	A+210	B+310
4, 5		A+20	B+20	A+240	B+280
6		A+40	B	A+210	B+310
7		A+20	B+20	A+210	B+280

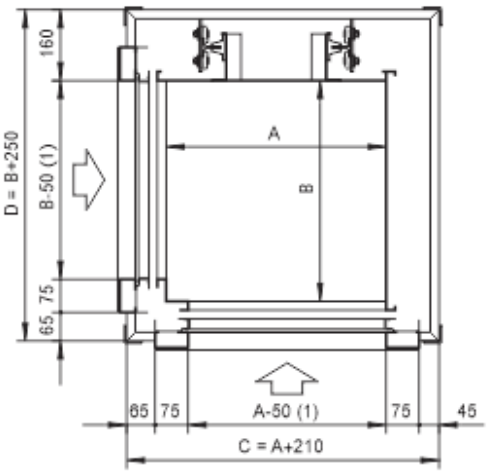
1. In case of car doors, B-100
2. In case of car doors, B-200



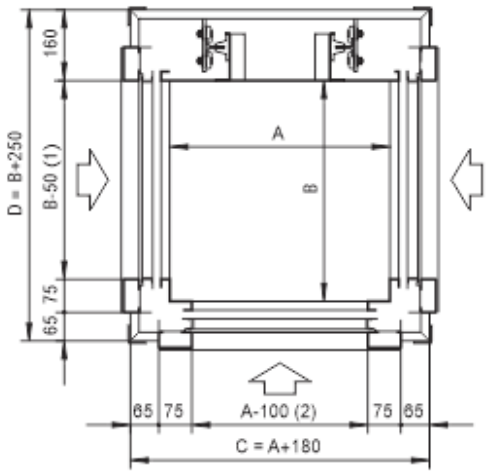
Layouts 2-3



Layouts 6



Layouts 4-5

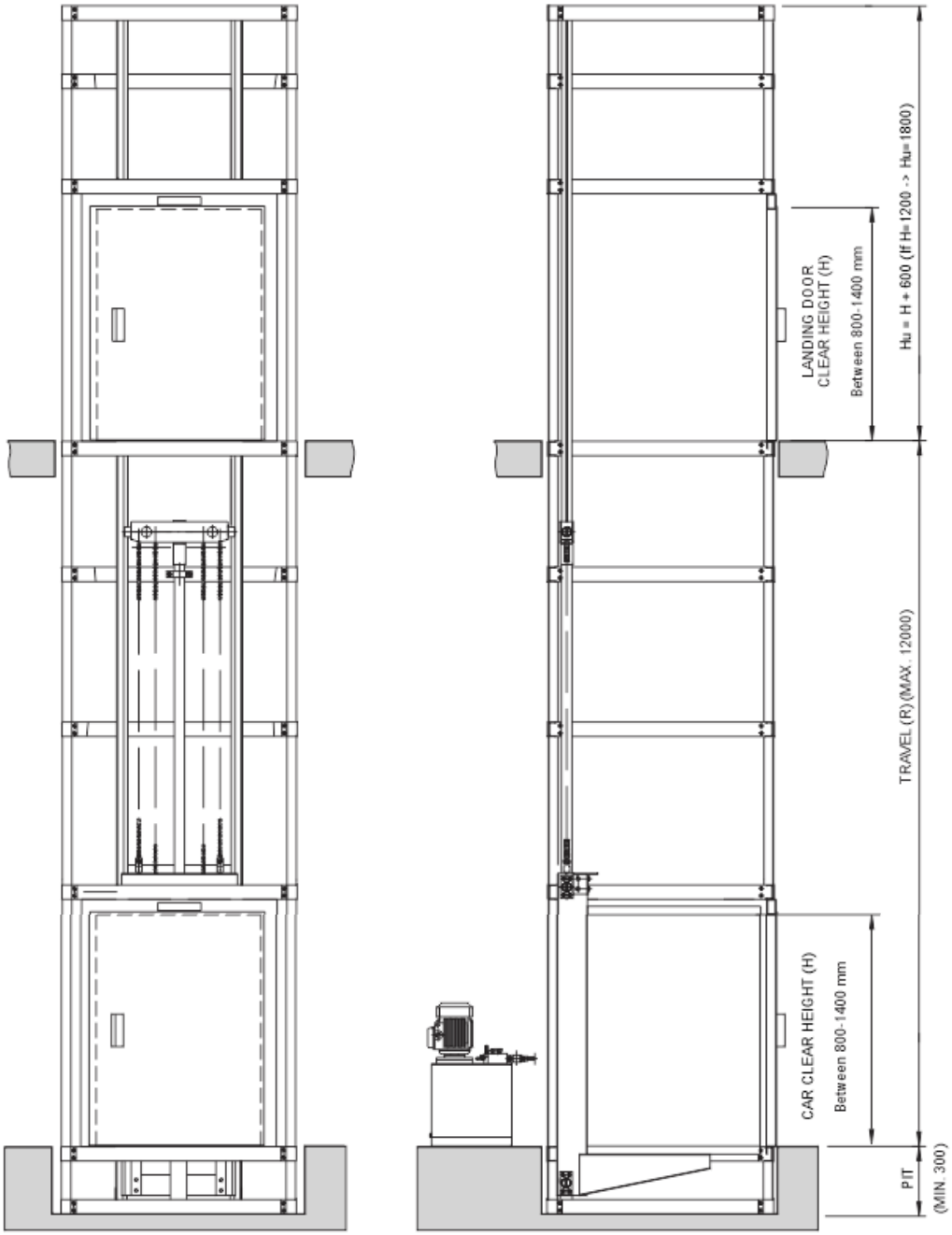


Layouts 7

MAXI MODEL.

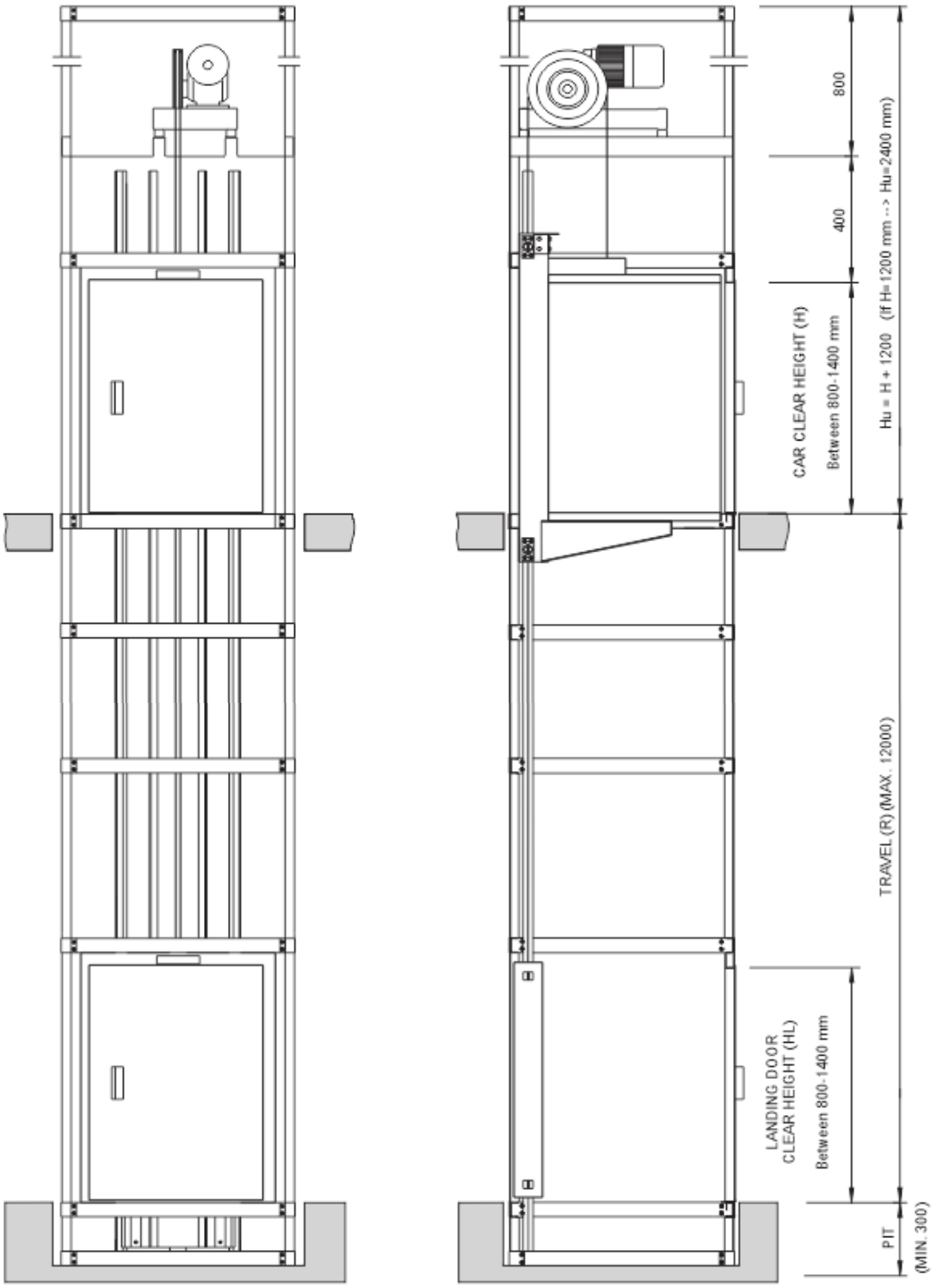
MINIMUM SHAFT DIMENSION MAXI MODEL. FRONT VIEW HYDRAULIC.

Figure 4



MINIMUM SHAFT DIMENSION MAXI MODEL. FRONT VIEW ELECTRIC.

Figure 5



MINIMUM SHAFT DIMENSION FOR MAXI MODEL. PLAN VIEW.

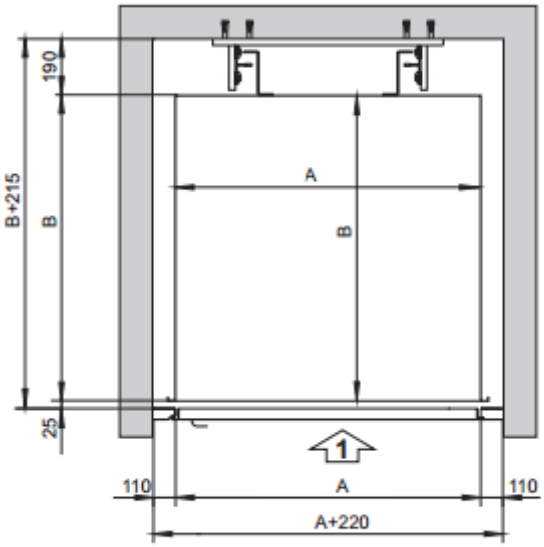
Figure 6 Without structure – fastening on wall.

Layouts	A mm				B mm
	Landing Doors Layout 1		Landing Doors Layout 2		
	Right Side	Left Side	Right Side	Left Side	
1 (layout frontal)	700 – 1,200	–	–	–	700 – 1,200
2 (layout lateral)	1,000 – 1,200	750 – 1,200	–	–	
3 (layout lateral)	750 – 1,200	1,000 – 1,200	–	–	
4 (double layout 90º)	–	1,000 – 1,200	1,000 – 1,200	–	
5 (double layout 90º)	1,000 – 1,200	–	–	1,000 – 1,200	
6 (double layout 180º)	1,050 – 1,200	750 – 1,200	750 – 1,200	1,050 – 1,200	

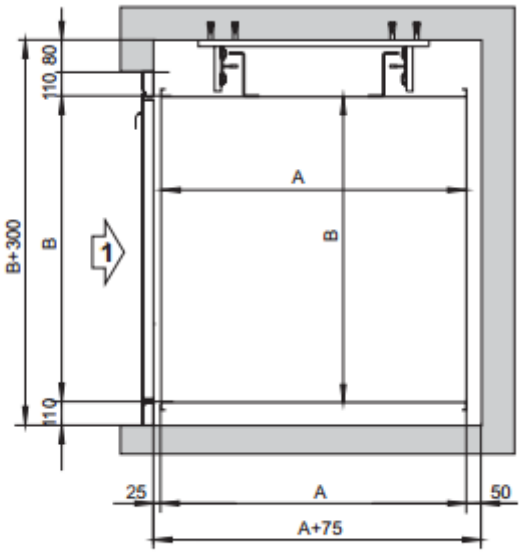
Maximum surface (AxB)=1.2m²

(*) 90º Double car are available depending on the boarding access and door hand side opening, Take in to consideration the cam can not be placed at corner frame side.

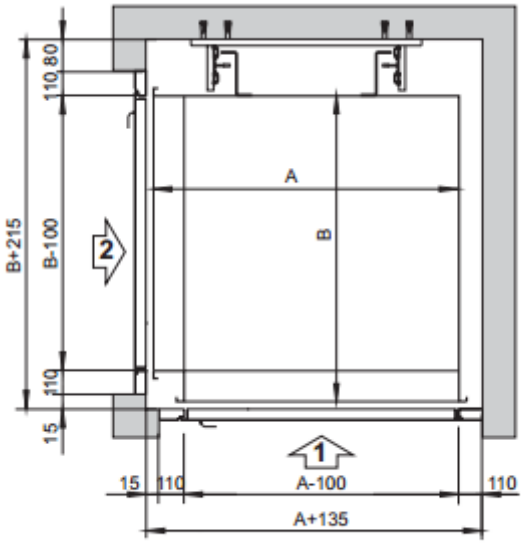
(**) Cam could not be placed at guides side in case of A<1,050



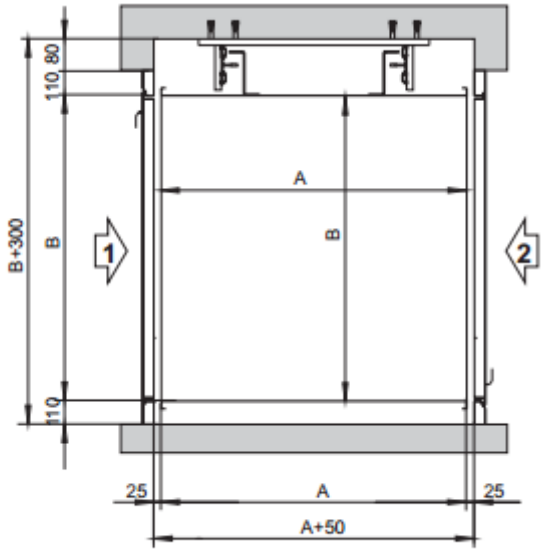
Layout 1



Layout 2-3



Layout 4-5



Layout 6

MINIMUM SHAFT DIMENSION FOR MAXI MODEL. PLAN VIEW.

Figure 7 With self-supporting structure.

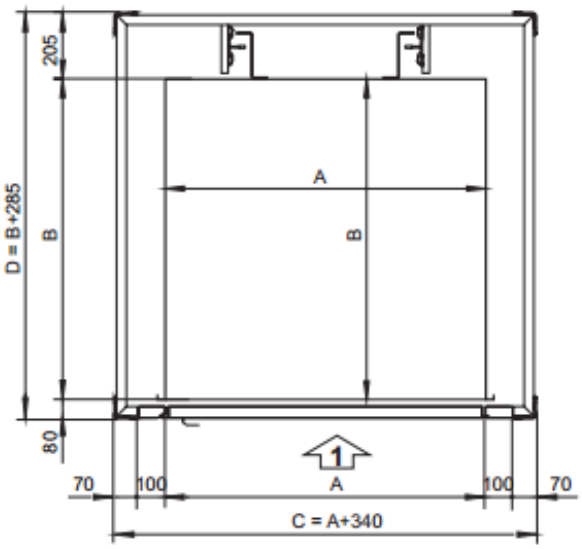
Layouts	A mm				B mm
	Landing Doors Layout 1		Landing Doors Layout 2		
	Right Side	Left Side	Right Side	Left Side	
1 (layout frontal)	700 – 1,200	–	–	–	700 – 1,200
2 (layout lateral)	1,000 – 1,200	700 – 1,200	–	–	
3 (layout lateral)	750 – 1,200	1,000 – 1,200	–	–	
4 (double layout 90º)	–	1,000 – 1,200	1,000 – 1,200	–	
5 (double layout 90º)	1,000 – 1,200	–	–	1,000 – 1,200	
6 (double layout 180º)	1,050 – 1,200	750 – 1,200	750 – 1,200	1,050 – 1,200	

Maximum surface (AxB)=1.2m²

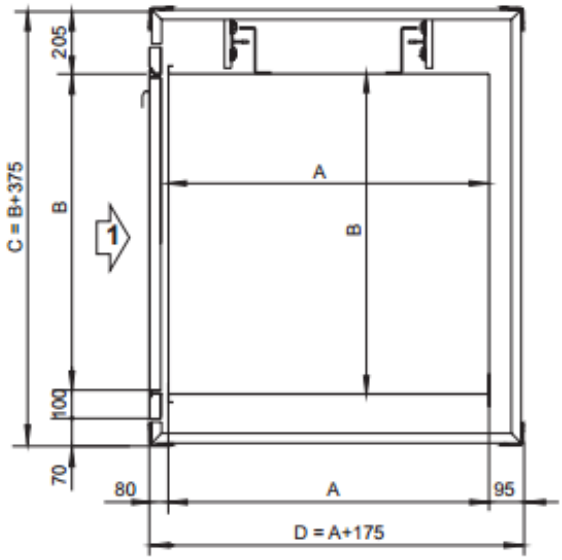
(*) 90º Double car are available depending on the boarding access and door hand side opening, Take in to consideration the cam can not be placed at corner frame side.

(**) Cam could not be placed at guides side in case of A<1,050

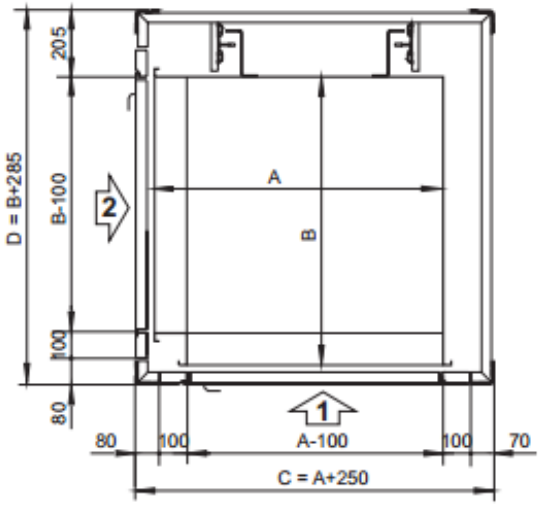
(***) The projection in plant of the landing doors, invades 10 mm the internal projection of the shaft.



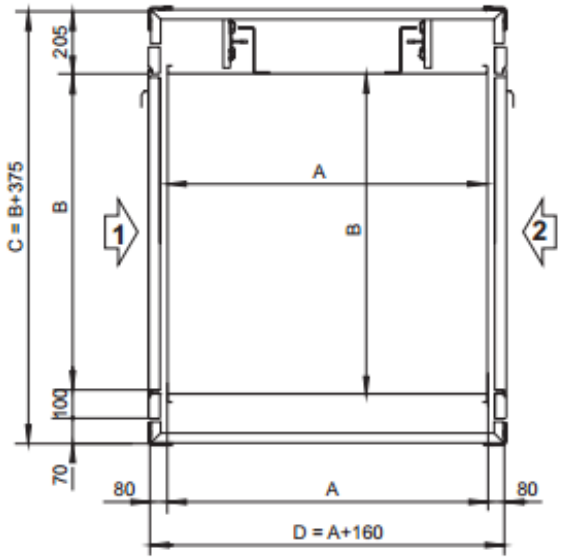
Layout 1



Layout 2 - 3.



Layout 4 - 5



Layout 6