

HI-TECH SECTIONAL DOORS

CUSTOM MADE
EUROPEAN STANDARD

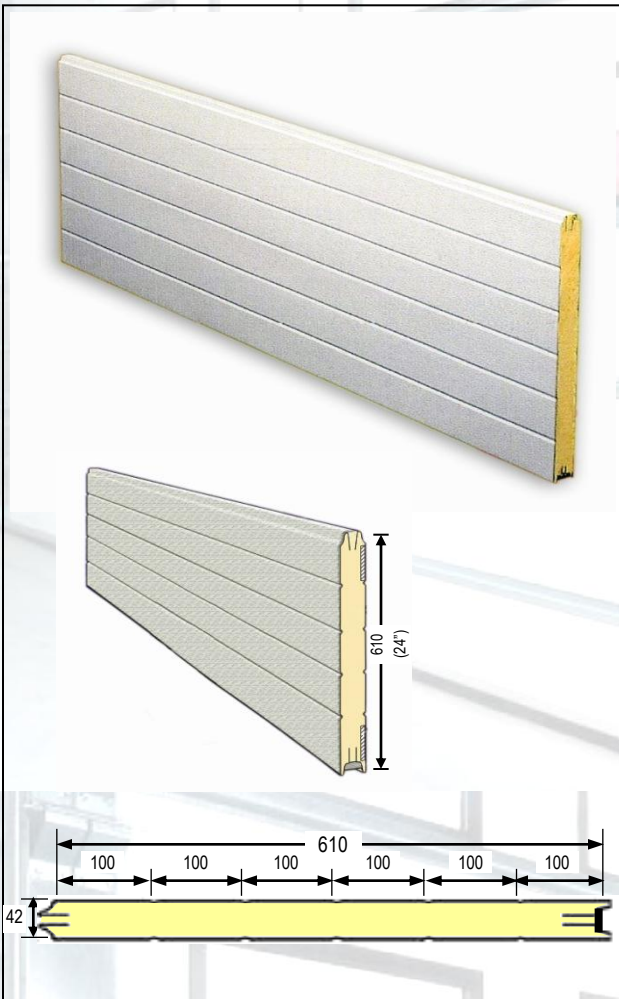


With years of experience and excellent Craftsmanship we are able to make the doors exactly as you require with numerous sizes, colors and designs, you can choose the doors that suits you

● **Residential**

● **Commercial**

PANEL DETAIL



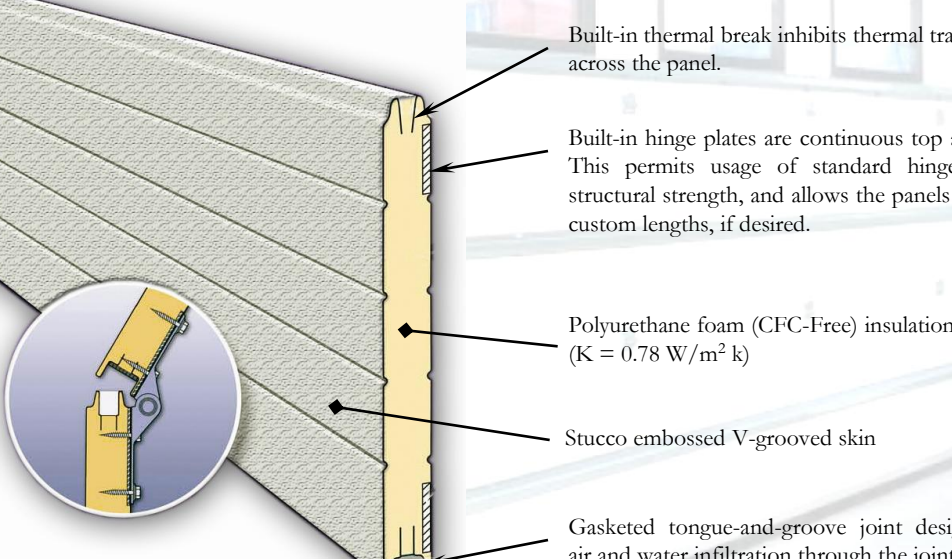
European standard design panel, Pre-lacquered double metal sheet with v-grooved pitch 100 mm. Internal and external stucco embossing (ST). Polyurethane foam injected CFC-free with longitudinal internal reinforcement plates for hardware fixing, Panel thickness 42mm. Panel skin material shall be available in two options

- ◆ Aluminium
- ◆ Steel (G.I)

Note : Panel thickness can be considered as special request up to 50mm thickness G.I & Aluminium Skin

Technical Characteristics			
Panel thickness : 42mm		K value total : 0.78 W/m ² k	
Weight			
Steel (G.I)		Aluminium	
Kg/m: 6.55	Kg/m ² : 10.74	Kg/m: 3.73	Kg/m ² : 6.11
Standard Color			
Interior: RAL 9002 (C21)		Exterior: RAL 9016 (C81)	
Reaction class to fire		Acoustic absorption	
0-2		RW(C;Ctr)=23(-2;-3) dB	

TONGUE & GROOVE DESIGN PANEL



The diagram illustrates the cross-section of a Tongue & Groove Design Panel. The panel consists of a Stucco embossed V-grooved skin (grey) with a built-in thermal break (yellow) and Polyurethane foam (CFC-Free) insulation (yellow). The panel is designed with a gasketed tongue-and-groove joint to prevent air and water infiltration. A circular inset shows a close-up of the joint assembly, highlighting the gasket and the built-in hinge plates.

- Built-in thermal break inhibits thermal transmission across the panel.
- Built-in hinge plates are continuous top and bottom. This permits usage of standard hinges, provides structural strength, and allows the panels to be cut to custom lengths, if desired.
- Polyurethane foam (CFC-Free) insulation ($K = 0.78 \text{ W/m}^2 \text{ k}$)
- Stucco embossed V-grooved skin
- Gasketed tongue-and-groove joint design prevents air and water infiltration through the joint.

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LIFT SYSTEMS

Standard Lift system (NL)

Standard lift system also known as Normal Lift, Standard Lift door turns through the bend directly above the clear height and the horizontal section consists of a single rail. See figure-1. Depending on the opening height, a head room between 450mm and 600mm should be available at site. Whenever more headroom is available, you should arrange for sufficient length of suspension profiles for the horizontal tracks or choose for a high lift system. The vertical track set is made up of a left hand and right-hand assembled corner lines with a guide track and side seal. The horizontal track set consists of a left-hand and right-hand bend and a reinforcement profile that is secured to the bend and the straight guide track.



Fig-1

CE-Low Head Room system (CE-LHR)

CE-LHR systems the door turns through the bend directly above the clear height. The horizontal section consists of a double track. See figure-2. The maximum dimensions are (w x h) 5000mm x 5000mm and 300kg. The track system of the LHR System consists of a vertical and a horizontal section. The vertical track set is made up of a left-hand and right-hand assembled corner lines with a guide track and side seal. The horizontal track set consists of a left hand and right-hand section with a double bend, straight tracks and a reinforcement profile. The bends and the straight guide tracks are fitted to each other by connection plates and a side plate. The side plate is fitted with a return pulley. As required in the CE-standard, the cable runs inside the track set.

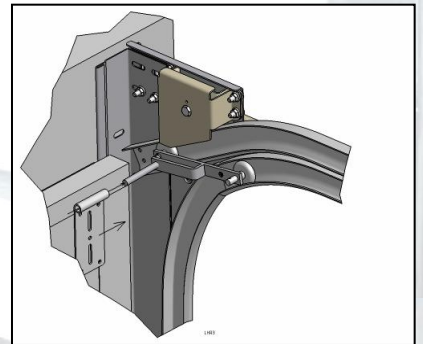


Fig-2

High Lift system (HL)

High Lift systems the door rises vertically first above the clear height before the upper panel turns through the bend. See figure-3. The size to be completed is underside lintel to underside of horizontal tracks in mm. So not the total head room. Depending on the opening sizes and high lift size, an extra room between 240 mm and 360 mm is required on top of that for the cable drums. The maximum theoretical high lift size is 4100mm. The combination of high day-light height (more than 4500mm) in combination with a small high lift size is not always possible. Depending on the high lift size the high lift drums have a maximum allowed door weight. The track system of the High Lift system consists of a vertical and a horizontal section. The vertical track set is made up of a left-hand and right-hand corner line with a guide track and side seal. For large clear heights and/or large high-lift the vertical track set is supplied in two sections. The horizontal track set consists of a left-hand and right-hand bend and a reinforcement profile that is secured to the bend and the straight guide track.

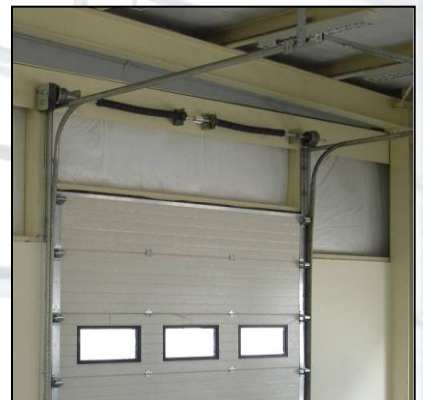


Fig-3

Vertical Lift system (VL)

Vertical Lift systems the door rises straight upward. See figure-4. The track system of the Vertical system consists only of a vertical section. The vertical track set is made up of a left-hand and right-hand corner line with a guide track and side seal. For large clear heights the vertical track set is supplied in two sections. The vertical angle with 2 times the height of day-light height (tracks plus 250mm). Between these the springs will be installed. Cable drums maximum day-light height is 6000mm and the maximum weight is 500kg. For vertical systems with a higher day-light and weight the cable drums.

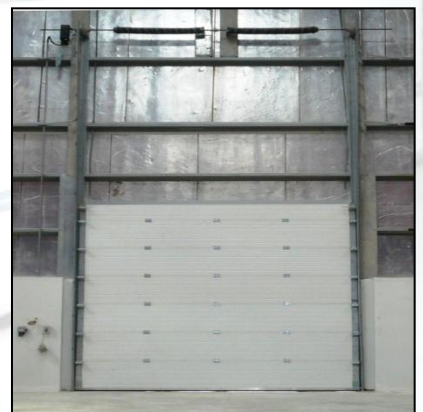


Fig-4

HARDWARE & ACCESSORIES

Hardware

Provide heavy duty roller brackets hinges attached to the integrated reinforcement hinge plates as per manufacturer Recommendations. Self tapping fasteners shall be used to secure brackets to the door sections. Provide Heavy duty corrosion resistant hardware, with galvanized fasteners to suit the type of door.

- **Top & Bottom brackets:** All Top & bottom brackets shall be equipped with adjustable rollers and are as per the Manufacture standards calculated per the size and weight of the door.
- **Rollers:** Provide nylon rollers (2" hardware) or heavy duty galvanized rollers (3" hardware), with steel ball bearings, rollers shall be either with small stem or long stem Calculated as per the size and type of the track systems of the doors (see fig. 7).
- **Step Handle:** Provide recessed nylon handles and inside step handles at the bottom of the doors.
- **Lock:** 1 pair of Slide locks provided as standards from inside of the door for manually operated doors. Different types of locking available upon request.
- **Lifting cables:** Provide galvanized steel cables with a safety factor of min 5:1 for each cable.

Tracks

Tracks shall be 50mm galvanized steel designed for specific clearances. Complete track including track connection plates, bracing and reinforcements for rigid support of the track for the required door type and size. All tracks shall be 2mm thick.75mm heavy gauge steel tracks for size above 6 m x 6 m (see fig. 1&2).

Counter balancing system

All doors shall be equipped with helical torsion wound springs providing minimum 15,000cycles. More cycles Up to 50,000 could be provided upon request at extra cost (see fig. 19).

Torsion shaft

All doors are provided with a round shaped 1 inch steel shaft having a continuous key way for locking the spring retainer. (see. Fig.22)

Cable drums

Provide cable drums designed according to the lift systems to receive the proper diameter of cable and the weight of the door. The door shall be attached to the drum by means of lifting cables on both door ends (see fig.17,18&20).

Weather seal

Bottom section of the door shall be fitted with EPDM rubber seal strip to provide firm seal against the weather when the door is in closed position. Vinyl jamb seals shall be provided on the sides and top to provide a seal to the external sides of the sections. EPDM bottom seal will provide a perfect sealing of door to the floor which clears any minor irregularities in the Floor (see fig. 4 & 5).

Reinforcements and supports

Galvanized steel angle supports for tracks to be provided as per the size and weight of the door to provide strength and rigidity and to ensure against any sag. All roof supports for the horizontal tracks to be galvanized steel angle bolted for track adjustments.

Mode of Operation

- Option-1 : Manual Pull and push by hand operation max. door size recommended 3 m x 3m)
- Option-2 : Manual – by means of chain hoist max (see fig.25) (door size recommended 4 m x 4 m)
- Option-3 : Electrical – by means of motor to suit the door as per manufacturer recommendation.

Controls & Safety device (Electrical)

- Standard 3 station push button control will be provided for normal operations
- Optional : remote control systems with hand transmitters will be available at extra cost
- Optional : photocells safety system will be available at extra cost
- Optional : safety edge system will be available at extra cost

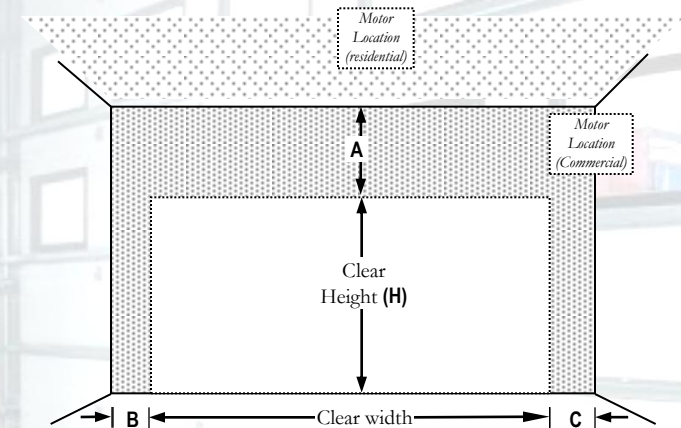
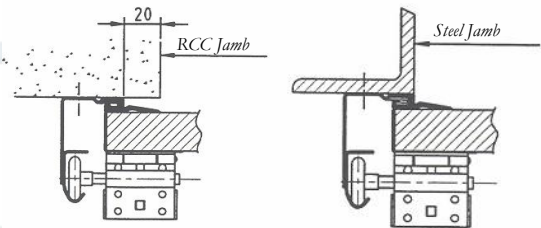
Optional accessories

- Vision panel, Oval, plastic, size 663x343mm (see fig.26)
- Spring break Device (see fig.23)
- Locks; as lockable from both sides
- Pass Door kits
- Struts – Wind load reinforcement shall be fitted for above 6mtr wide doors (see fig.21)
- Color finish – Wet coated to RAL Std Color



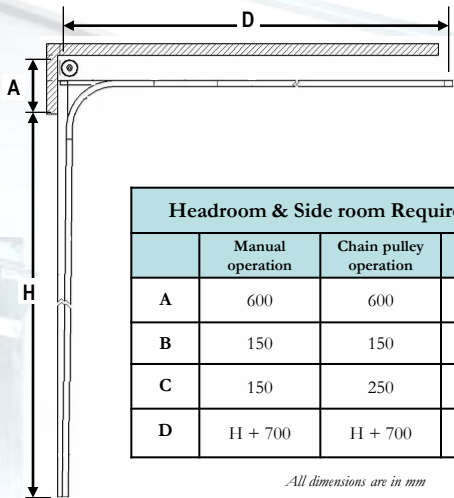
INSTALLATION REQUIREMENTS

Type of Jamb



Note : Motor can be fixed on either LH Side or RH Side depends upon sideroom (C,D) availability at site

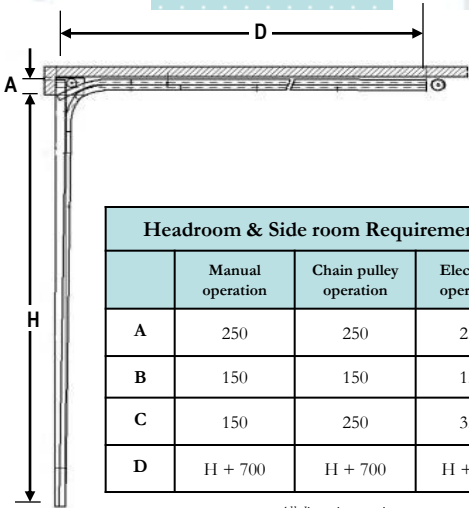
Standard Lift



Headroom & Side room Requirements			
	Manual operation	Chain pulley operation	Electrical operation
A	600	600	600
B	150	150	150
C	150	250	350
D	H + 700	H + 700	H + 700

All dimensions are in mm

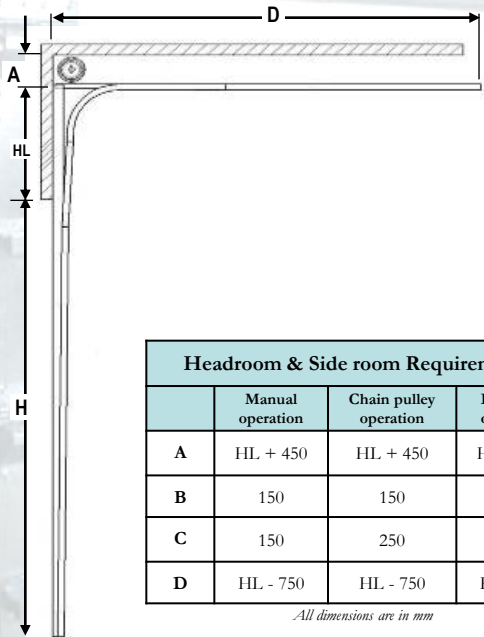
Low Headroom



Headroom & Side room Requirements			
	Manual operation	Chain pulley operation	Electrical operation
A	250	250	250
B	150	150	150
C	150	250	350
D	H + 700	H + 700	H + 700

All dimensions are in mm

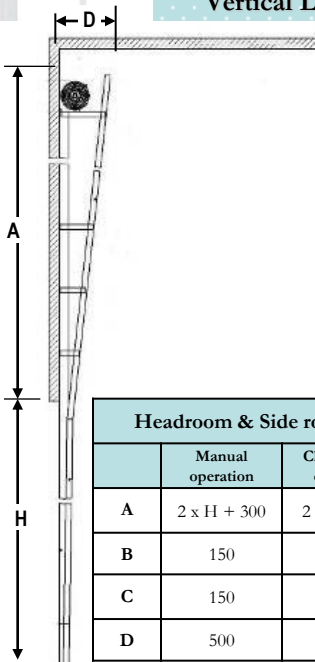
High Lift



Headroom & Side room Requirements			
	Manual operation	Chain pulley operation	Electrical operation
A	HL + 450	HL + 450	HL + 450
B	150	150	150
C	150	250	350
D	HL - 750	HL - 750	HL - 750

All dimensions are in mm

Vertical Lift



Headroom & Side room Requirements			
	Manual operation	Chain pulley operation	Electrical operation
A	2 x H + 300	2 x H + 300	2 x H + 300
B	150	150	150
C	150	250	350
D	500	500	500

All dimensions are in mm

