

Elevator & Accessibility Reference Tool

by

DELTA
ELEVATOR



Choosing the Right Elevating Device

Selecting the best elevating device for your specific requirements is an important decision - it will affect the long term success of your building project.

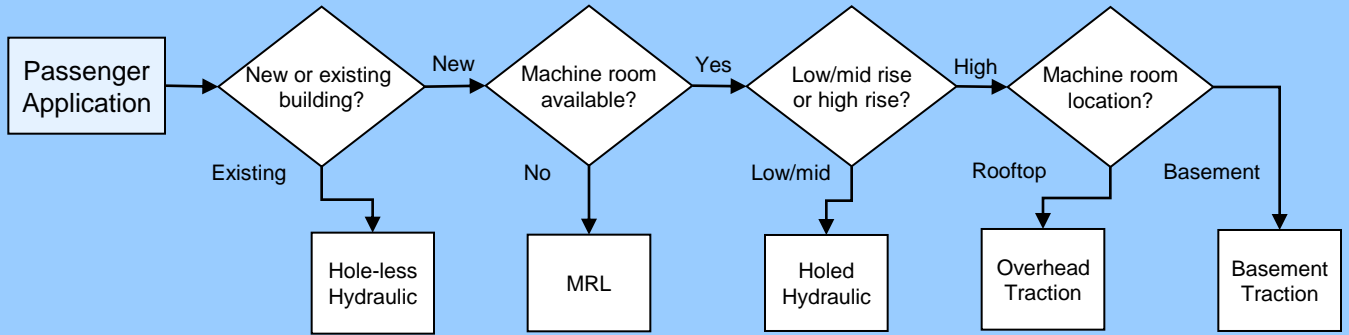
Most elevators are used on a daily basis and have a significant impact on users' quality of life. Elevating devices also involve a large initial capital expenditure, along with ongoing maintenance costs after completion.

Since it is difficult to make significant changes to the unit once it is installed, it is critical to use design consultation early in the process, including site visits, specification writing, and specification reviewing.

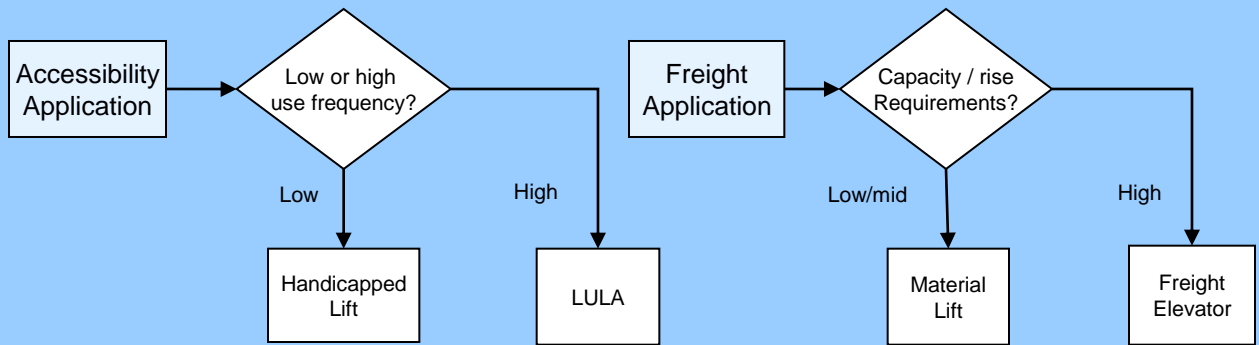
A good understanding of your building's needs is the key to a successful choice of elevating device.



Integrity, Service & Quality since 1967



	Hole-less Hydraulic	Machine Room-Less (MRL)	Holed Hydraulic	Overhead (rooftop) Traction	Basement Traction
Elevator Code	CSA-B44				
Typical Applications	<ul style="list-style-type: none"> • Malls / Plazas • Mid-rise buildings • Hospitals • Universities • Colleges • Parking garages 	<ul style="list-style-type: none"> • Malls / Plazas • Mid-rise buildings • Hospitals • Universities • Colleges • Parking garages 	<ul style="list-style-type: none"> • Malls / Plazas • Mid-rise buildings • Hospitals • Universities • Colleges • Parking garages 	<ul style="list-style-type: none"> • High-rise towers • Office towers • Hospitals • Universities • Colleges 	<ul style="list-style-type: none"> • Mid-rise buildings • Office towers • Hospitals • Universities • Colleges
Installation Cost	Low - Medium	Medium - High	Low - Medium	Medium - High	Medium - High
Safety Features	Infra-red light curtain Emergency cab lighting Emergency phone				
Speed	0.40 – 0.75 m/s	0.75 – 1.75 m/s	0.40 – 0.75 m/s	0.75 – 2.25 m/s	0.75 – 1.75 m/s
Capacity	910 – 2,500 kg	910 – 2,050 kg	910 – 2,500 kg	910 – 2,500 kg	910 – 2,500 kg
Maximum Floors	7	16	7	31	10
Maximum Travel	18 m	50 m	18 m	100 m	30 m
Cab Size	2.36 – 5.19 m ²				
Hall Entrances	Horizontal sliding (single speed, two speed or centre opening depending on elevator size)				
Car Entrances	Horizontal sliding (single speed, two speed or centre opening depending on elevator size)				
Maintenance Costs	Low - Medium	Medium - High	Low - Medium	Medium	Medium - High
Advantages	Cost effective for retrofit sites Easy to maintain Good ride quality	Most energy efficient No machine room Excellent ride quality	Cost effective for new construction Easiest to maintain Good ride quality	Proven design for tall buildings Energy efficient Excellent ride quality	Alternate machine room location Energy efficient Excellent ride quality
Disadvantages	Maintenance more complex than for a holed hydraulic	Most complex and expensive to maintain	Not suitable for groundwater or bedrock sites	More expensive to install and maintain than hydraulics	More expensive to maintain than overhead traction



	Enclosed Vertical "C" Platform Lift	Limited Use/ Limited Application		Material Lift Type "B"	Freight Elevator (hydraulic/traction)
Elevator Code	CSA-B355	CSA-B44		CSA-B44	CSA-B44
Typical Applications	<ul style="list-style-type: none"> • Residences • Churches • Funeral homes • Municipal buildings 	<ul style="list-style-type: none"> • Schools • Low-rise buildings • Long-term cares • Small office buildings 		<ul style="list-style-type: none"> • Industrial buildings • Municipal buildings • Restaurants 	<ul style="list-style-type: none"> • Industrial buildings
Installation Cost	Low	Medium		Medium	High
Control Type	Constant Pressure	Automatic		Constant Pressure	Automatic
Restricted Access Required	Yes	No		Not accessible to general public	No
Attendant Required	Yes	No		No	Trained operator
Safety Features	<ul style="list-style-type: none"> • Manual lowering • Emergency alarm • Emergency stop • Emergency lighting 	<ul style="list-style-type: none"> • Manual lowering • Infra-red light curtain • Emergency lighting • Emergency phone 		<ul style="list-style-type: none"> • Manual lowering • Emergency alarm • Emergency stop • Emergency lighting 	<ul style="list-style-type: none"> • Infra-red light curtain • Emergency lighting • Emergency phone
Speed	0.15 m/s	0.15 m/s		0.15 m/s	0.15 m/s and up
Capacity	454 kg	635 kg		As required	As required
Maximum Floors	4	7		2	Call Delta
Maximum Travel	7 m	9 m		5 m	Call Delta
Cab Size	Maximum 2.00 m ²	Maximum 1.67 m ²		N/A	N/A
Hall Entrances	Swing Door (1.2 m max)	Two speed sliding		Single / double swing	Vertical bi-parting
Car Entrances	None	Two speed sliding		None	Vertical sliding
Maintenance Costs	Low	Medium		Medium	High
Advantages	Low cost accessibility Shallow pit	Fully automatic Shallow pit		Cost effective solution Shallow pit	Higher capacity Faster speeds
Disadvantages	Not compliant with new AODA laws	Not compliant with new AODA laws		Relatively slow with limited door sizes	Requires increased pit depth & overhead

Hydraulic Elevators

Hydraulic elevators are a common type of elevator in use today, typically in low to mid-rise buildings. They provide a reasonable trade-off between speed, capacity, and cost.

Hydraulic elevators use proven, oil-based technology: Oil is pumped from a tank into a hydraulic cylinder which raises and lowers the elevator at medium speeds. Environmentally friendly oils are now available.

Hydraulic elevators are available in holed, hole-less, and roped configurations. Each is designed to fit specific site requirements.

Traction Elevators

Traction (also known as roped) elevators are most often used in residential or commercial high-rise applications. These elevators are faster and quieter, but more expensive, than hydraulic elevators. They are also energy-efficient since they use counterweights to equalize the loads involved in moving the elevator. Machines can be located on the rooftop or in the basement.

The **Machine Room-Less (MRL)** elevator is a fairly recent innovation of a traction elevator. The key benefit with an MRL is the absence of a rooftop machine room, which is replaced with a smaller controller room, since the machine is located directly in the hoistway.

Material Lifts / Freight Elevators

Material lifts are small lifts which can transport light freight such as loaded carts and small pallets over a short rise using the constant pressure method of operation.

Freight elevators, whether hydraulic or traction, are fully automatic, designed and manufactured to be robust so they can carry heavy freight and freight handling equipment in industrial applications.

Accessibility Solutions

Ramps are a good solution for an external application with a relatively low rise. While they are inexpensive, they can negatively affect a building's aesthetic appeal.

Stairway accessibility lifts include stair chairs and inclined platform lifts. **Short accessibility lifts** provide a lifting platform for wheelchairs and passengers for infrequent use with short vertical travel needs. These units require restricted key access and also have exposed mechanical components subject to vandalism.

Floor to floor accessibility (Vertical 'C') lifts are enclosed, have swing doors, require a key to operate, and have constant pressure push buttons. They are a good solution for low-use applications where an attendant is available.

A relatively new accessibility solution is the **Limited Use / Limited Application (LULA)** elevator. This is a smaller size and capacity elevator which is fully automatic but moves at relatively slow speeds.

Other Factors to Consider

Important factors to consider in addition to building related criteria include:

- Budget limitations
- Loading class requirements
- Serviceability needs
- Energy consumption levels

Custom Elevators

Need a custom elevator for a unique installation?

Call us - Delta has the in-house engineering resources, on-site production facilities, and trained field staff to design, manufacture, and install a custom elevator for almost any application.