

# Hydraulic Elevators

## The Hydraulic Advantage

**Reliability:** Hydraulic elevators have been in service in Canada and around the world for many decades. They use proven, oil-based lifting technology in low to mid-rise buildings to provide a robust and reliable elevating device.

**Durability:** In a normal application with regular preventive maintenance, many hydraulic elevators have a lifespan of over 20 years before requiring major upgrades. This results in less down time for riders and simpler long term planning for owners.

**Affordability:** Hydraulic elevators are simple in design compared to traction elevators. This makes them cost effective when the entire product life cycle is considered, from initial installation to regular operation.

**Serviceability:** Hydraulic elevators have fewer parts than traction elevators, which makes them easier to maintain and to service. Also, there are fewer proprietary parts, so they can be serviced by other elevator contractors instead of only the OEM.

## Hydraulic Passenger Elevator Configurations

	In-Ground	Dual Upright	Dual Telescopic	Dual Roped
<b>Initial Cost</b>	Low - Medium	Low - Medium	Medium	Medium - High
<b>Floors Served</b>	Up to 6	Up to 3	Up to 4	Up to 6
<b>Maximum Travel</b>	15.0 m	4.2 m *	7.7 m *	15.0 m
<b>Cylinder Location</b>	Below ground	Elevator shaft	Elevator shaft	Elevator shaft
<b>Drive Type</b>	Direct acting	Direct acting	Direct acting	1:2 roping
<b>Service Costs</b>	Low	Low	Low	Medium
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Cost effective for new construction</li> <li>• Robust design</li> <li>• Low maintenance cost</li> </ul>	<ul style="list-style-type: none"> <li>• Cost effective for new and retrofit sites</li> </ul>	<ul style="list-style-type: none"> <li>• Cost effective for new and retrofit sites</li> </ul>	<ul style="list-style-type: none"> <li>• Cost effective for new and retrofit sites</li> <li>• Higher travel than other above grounds</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Not suited for bedrock / ground water sites</li> <li>• Requires third party hole drilling</li> <li>• Expensive to replace cylinder</li> </ul>	<ul style="list-style-type: none"> <li>• Limited travel distance</li> </ul>	<ul style="list-style-type: none"> <li>• More expensive to install than an in-ground elevator</li> </ul>	<ul style="list-style-type: none"> <li>• More expensive to install and maintain than an in-ground elevator</li> <li>• More susceptible to vandalism</li> </ul>

\* Some increases are possible with deeper pits and / or increased overhead.

### Common Features:

- Governed by the CAN/CSA-B44 Elevator Code
- Capacity: 910 - 2500 kg
- Speed: 0.50 - 0.75 m/s
- Safety features: Infra-red door curtain, emergency cab lighting, emergency phone

# Hydraulic Passenger Elevator Specifications

<b>Capacity (kg)</b>	<b>910</b>	<b>950</b>	<b>1160</b>	<b>1200</b>	<b>1365</b>	<b>1587</b>	<b>1587</b>	<b>1815</b>	<b>2050</b>	<b>2275</b>
<b>Orientation</b>	Wide	Deep	Wide	Deep	Wide	Deep	Wide	Deep	Deep	Deep
<b>Inside Cab Size</b>										
Width (mm)	1726	1370	2032	1406	2032	1610	2032	1598	1598	1726
Depth (mm)	1300	1726	1300	2032	1406	2032	1610	2364	2554	2554
Height (mm)	2286	2286	2286	2286	2286	2286	2286	2286	2286	2286
<b>Door Width (mm)</b>	914	914	1067	1067	1067	1067	1067	1219	1219	1372
<b>Hoistway Depth</b>										
Front Door Only (mm)	1800	2302	1800	2608	1906	2608	2110	2940	3130	3130
Front & Rear Doors (mm)	2036	2614	2036	2920	2142	2920	2346	3252	3442	3442

<b>In-Ground</b>										
Hoistway Width (mm)	2264	1908	2540	1980	2540	2148	2540	2240	2240	2489
Pit Depth (mm)	1525	1525	1525	1525	1525	1525	1525	1525	1525	1525
Overhead (mm)*	3800	3800	3800	3800	3800	3800	3800	3800	3800	3800

<b>Dual Upright</b>										
Hoistway Width (mm)	2334	1978	2640	2032	2640	2252	2674	2310	2310	2540
Travel < 3450 mm, Pit Depth = 1525 mm										
Overhead (mm)*	3800	3800	3800	3800	3800	3800	3800	3800	3800	3800
Travel < 4200 mm, Pit Depth = 1829 mm										
Overhead (mm)*	4100	4100	4100	4100	4100	4100	4100	4100	4100	4100

<b>Dual Telescopic</b>										
Hoistway Width (mm)	2334	1978	2640	2032	2640	2252	2674	2310	2310	2540
Travel < 6500 mm, Pit Depth = 1525 mm										
Overhead (mm)*	4100	4100	4100	4100	4100	4100	4100	4100	4100	4100
Travel < 7700 mm, Pit Depth = 1829 mm										
Overhead (mm)*	4400	4400	4400	4400	4400	4400	4400	4400	4400	4400

<b>Dual Roped</b>										
Hoistway Width (mm)	2438	2081	2743	2118	2743	2322	2743	2438	2438	2696
Pit Depth (mm)	1525	1525	1525	1525	1525	1525	1525	1525	1525	1525
Overhead (mm)*	4200	4200	4200	4200	4200	4200	4200	4200	4200	4200

\* Overhead is based upon 2438 mm cab height. For taller cabs, please contact Delta.

**Notes:**

- Other capacities and door configurations are available. See [www.delta-elevator.com](http://www.delta-elevator.com) or call for details.
- Applications with a single rear door should use a pocket at the rear door to reduce the hoistway depth required. Please call for details.
- Dual upright and dual telescopic overhead requirements can be reduced in some circumstances by increasing pit depth.
- Some slight increases in travel are possible with dual upright and dual telescopic designs on a case by case basis.