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PALM SPRINGS AERIAL TRAMWAY TECHNICAL FACTS

This is a double reversible aerial tramway, also known as a Jig-Back Tramway.

The floor of each tramcar makes one to two rotations per trip.

Manufacturer:		Doppelmayr Tramways of Thun, Switzerland
Elevation of lower terminal (Valley Station):		2,643ft / 806m ASL
Elevation of upper terminal (Mountain Station):		8,516ft / 2,596m ASL
Difference of elevation:		5,873ft / 1,791m
Actual length traveled along cables:		12,780ft / 3,895m 2.5 miles
Average gradient:		26 degrees
Maximum:		42 degrees
Number of intermediate towers:		5
The first tower is the tallest at approximately:		227ft
Car statistics:	Height inside: 8ft Diameter: 18ft Carriage Height: 25 ft Weight (carriage, hanger and cabin) Empty: 22,000lb / 10,000kg Maximum Payload: 13,600lb / 6,200kg Total Weight: 35,600lb / 16,200kg	
Capacity of each car:		Approx. 80 passengers plus 1 car operator

Normal traveling speed:	7.5 meters per second or 16 mph (1476 feet per minute)
Maximum existing traveling speed:	10 meters per second or approximately 22 mph (1,970 feet per minute)
Maximum future traveling speed:	11 meters per second or approximately 24 mph (2,165 feet per minute)
Maximum traveling speed while passing towers:	8 meters per second or approximately 18 mph (approx. 1,575 feet per minute)
System of electric drive:	3 Phase, AC, Regenerative Variable Frequency
Maximum output of AC drive motor:	1,800 HP – 1,343 KW
Continuous output:	1,200 HP – 895 KW
Back-up Engines: 1 st : 2 nd :	6.5 meters/second12-cylinder diesel engine2 meters/second6-cylinder diesel engine

Number and size of cables:

2 x 2 tension to track ropes of 3 inches / 75mm diameter
2 stationary track cables of 1-7/8 inches / 47.5mm diameter
2 stationary track cables of 1-15/16 / 48mm diameter
1 lower hauling rope of 1-9/16 inches / 40mm diameter
1 upper counter rope of 1-3/4 inches / 45mm diameter
1 auxiliary rope of 15/16 inches / 24mm diameter
1 telephone rope of 5/8 inches / 16.2mm diameter, with a fiber optic core

The cable span and number of slack rope carriers

From/To	Cable Span	Number of
		Slack Carriers
Valley Station/Tower 1	1,148ft / 349m	1
Tower 1/Tower 2	3,280ft / 1,000m	5
Tower 2/Tower 3	3,225ft / 983m	4
Tower 3/Tower 4	3,455ft / 1,053m	4
Tower 4/Tower 5	968ft / 295m	1

Individual Tower Heights:

Tower 1	227ft / 69.1m
Tower 2	146ft / 44.4m
Tower 3	83ft / 25.3m
Tower 4	65ft / 19.8m
Tower 5	68ft / 20.6m

Each pair of track cables is tensioned by counterweights at the Valley Station, weighing more than 120 tons each.

The haul and counter ropes are tensioned by a counterweight at the Mountain Station weighing 67 tons.

Other rotating trams in the world:

Mt. Titlis Engelberg, Switzerland Winter/Summer

Table Mountain Cape Town, South Africa Year Round

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