

# Utilization of Electrical Energy 3340903



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**Vishal D Devdhar**

**Lecturer**

**Electrical Engineering Department**

**Government Polytechnic, Rajkot**



**Unit-3**  
**Electric Drives**  
**&**  
**Elevators**

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# Types of Elevators

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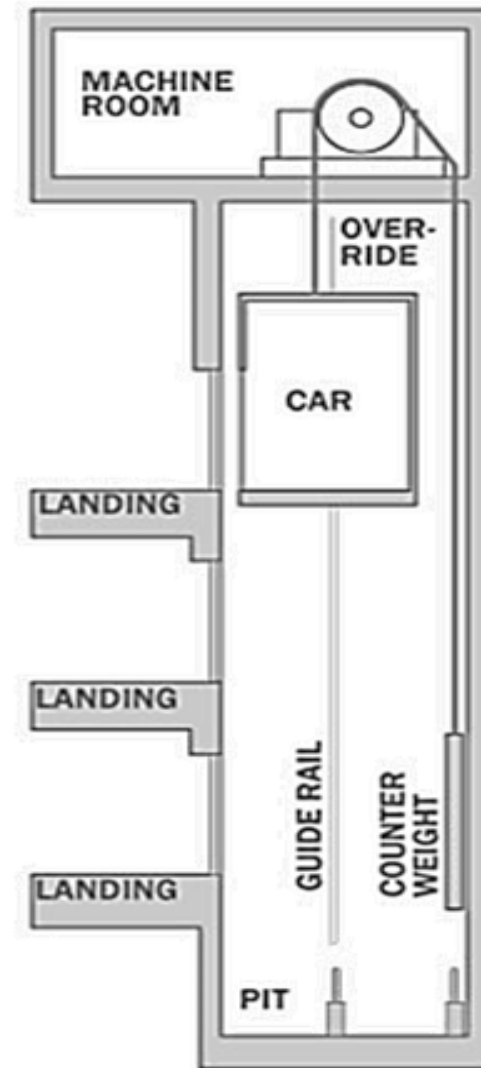
## Traction Elevators

- Machine-Room-Less (MRL) traction
- Traction with a machine room
  - Geared
  - Gear Less

## Hydraulic Elevators

# Traction Elevators

⇒ Machine Room type

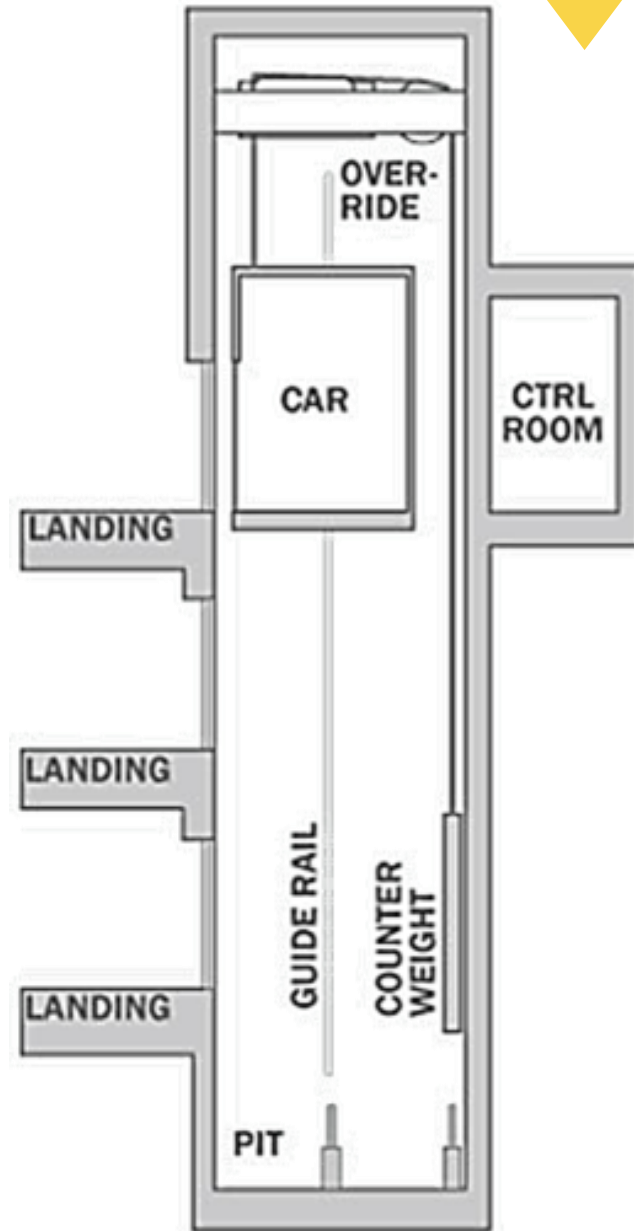


# Traction Elevators

⇒ Machine Room Less



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# Machine Room Less



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## ⇒ Advantages

Reduced Energy

Increased Usable Space

Environmentally Friendly

Faster Speeds

Increased Acceleration/Deceleration Rates

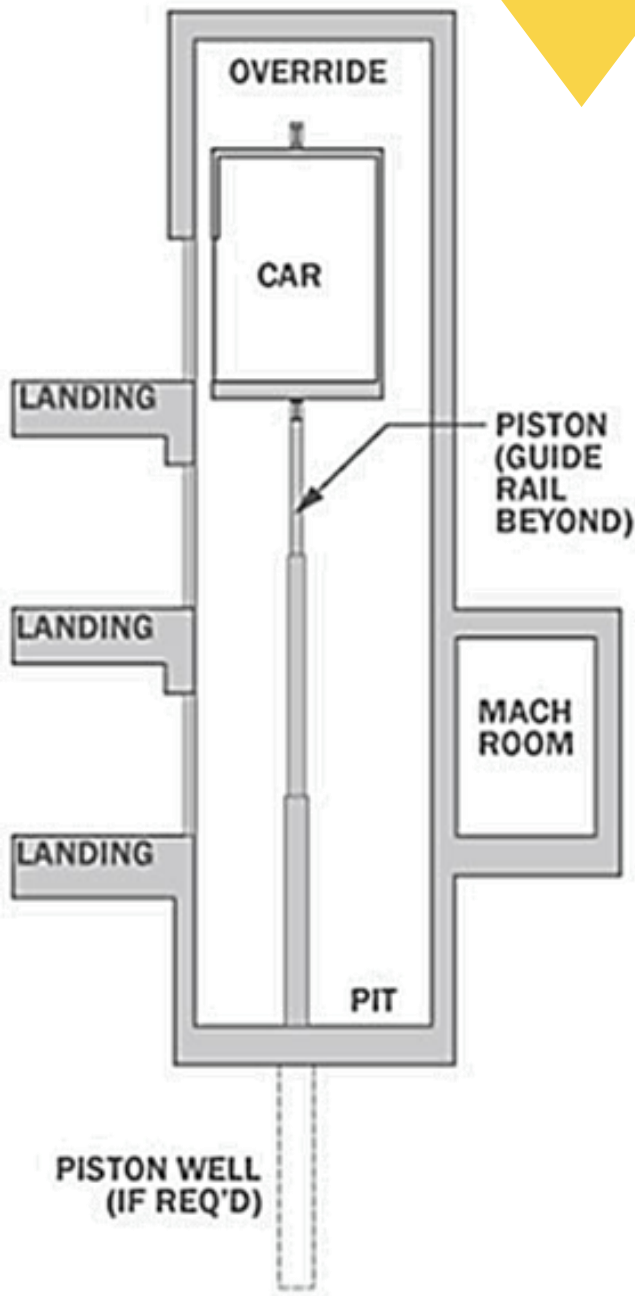
## ⇒ Disadvantages

Higher Cost

Increased Maintenance Costs

# Hydraulic Elevators

## HYDRAULIC ELEVATOR



# Hydraulic Elevators



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## ⇒ Advantages

Lower Price

More Capacity

## ⇒ Disadvantages

Lower Speeds & Acceleration/Deceleration

Environment Concerns

High Risk in Extreme Conditions



# Comparison

Electric  
Traction (MRL)

VS Hydraulic



Has a higher  
upfront cost



Price is 20% lower  
compared to MRL

Travel distance  
up to 250 feet



Travel distance  
up to 60 feet

Travel speed of  
500 feet per minute



Travel speed of  
150 feet per minute

Does not need  
additional  
mechanical space



Requires a  
machine room at  
the lowest level adjacent to elevator



# Thank You



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