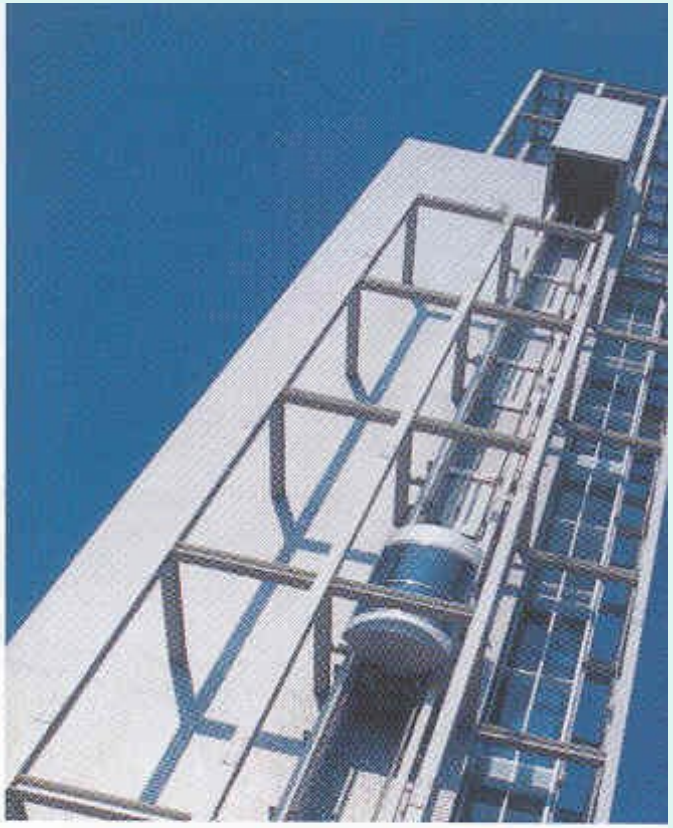

PENGENALAN KEPADA
SISTEM LIF

Users Expectations on Vertical Transportation



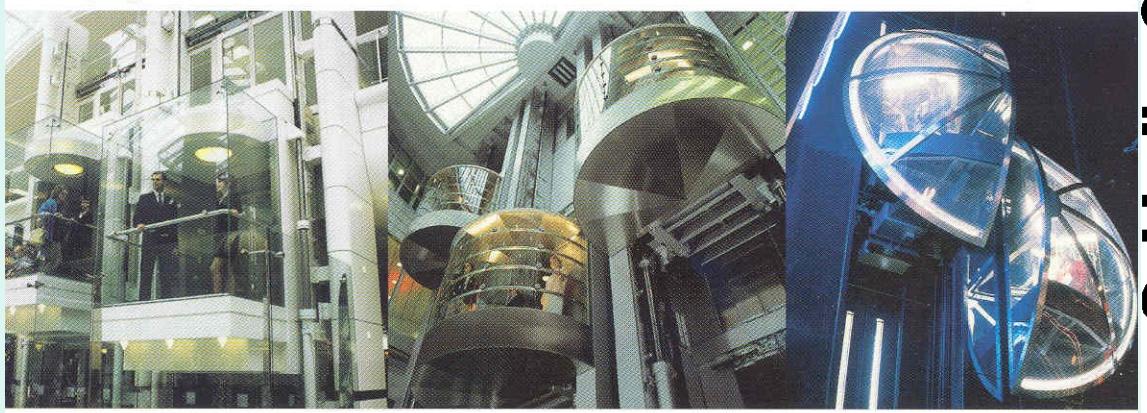
Klangturm, St. Pölten, Austria.

Discover the new dimensions of elevator design. Innovative manufacturing methods allow spectacular glass constructions. Special panorama cars are the individual calling cards of your building.

Gatwick Airport,
London, England.

glass

Atag Buildi
Zurich, Switzerla



interfaces

Clearly defined interfaces are crucial for all elevator systems. We work closely with all parties concerned and provide you with an ideal elevating solution.

Shopping Center,
Ostermundigen, Switzerland.

specials

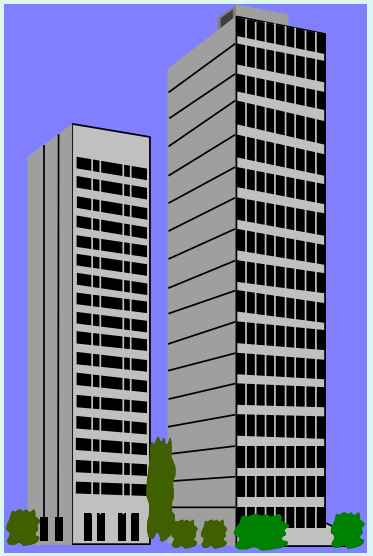
With the widest experience of indoor and outdoor panorama insta lations, we have the competence and knowledge, and we enjoy the challenges. Talk to us about panor- ama elevators, not just the car, bu the complete system.

Schindler

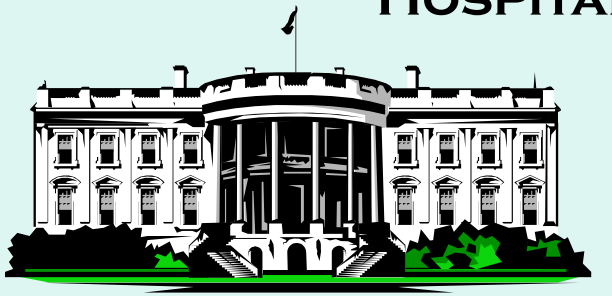
Users Expectation on Vertical Transportation

FACTORY

HOSPITAL

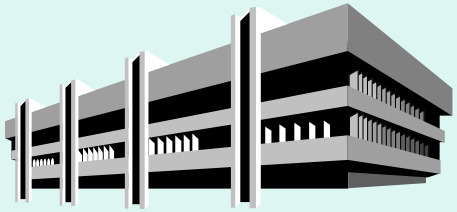


OFFICE/
COMMERCIAL BUILDING



VIP OFFICES

FLATS



PUBLIC BUS STATION

PRIVATE USE

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Users Expectation on Vertical Transportation

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Users Expectation on Vertical Transportation

xpectation/ uilding	Waiting Time	Lighting	Ride Comfort	Interior Finishes	Stopping accuracy	Safety	Door Opening/ Closing (Noise)	External Appearance
lat	High	Low	Low	Low	Low	High	Low	Low
lospital	High	High	High	Low	High	High	Low	Low
ublic Bus Station	High	Low	Low	Low	Low	High	Low	Low
ffice/Commercial uilding	High	High	High	High	High	High	High	High
IP Offices	High	High	High	High	High	High	High	High
rivate Use	High	High	High	High	High	High	High	High
actory	High	High	Low	Low	High	High	Low	Low

RELEVANT ACT AND STANDARDS

- **AKTA KILANG DAN JENTERA**

  - Electric Passenger and Goods Lifts Regulations 1970, as published in Factories and Machinery Act 1967.

- **BRITISH STANDARD OR THE AMERICAN NATIONAL STANDARD SPECIFICATION FOR ELECTRIC LIFTS**

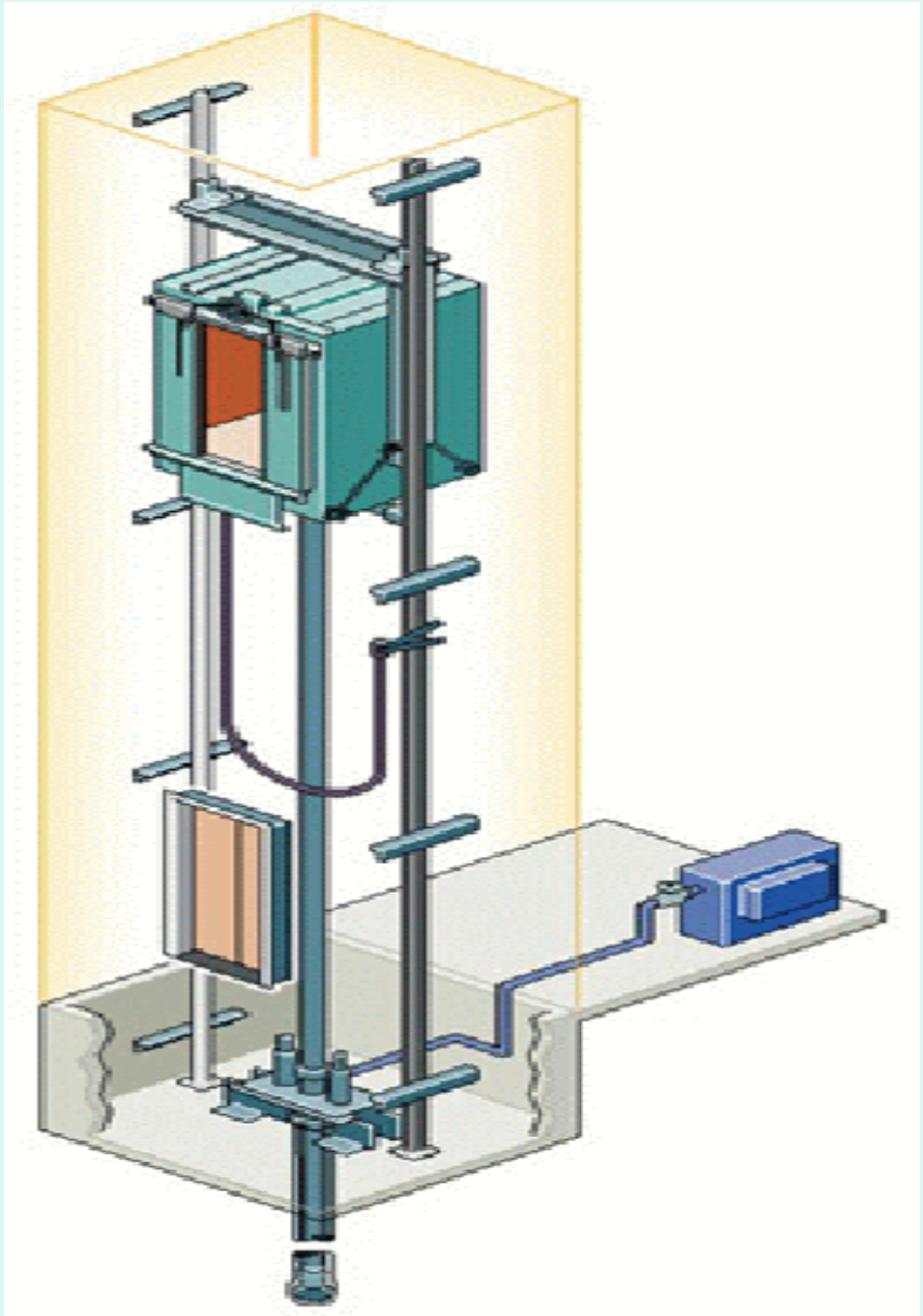
  - BS 5655 Pt. 1 to 10

  - ANSI/ASME A 17.1 - 1981

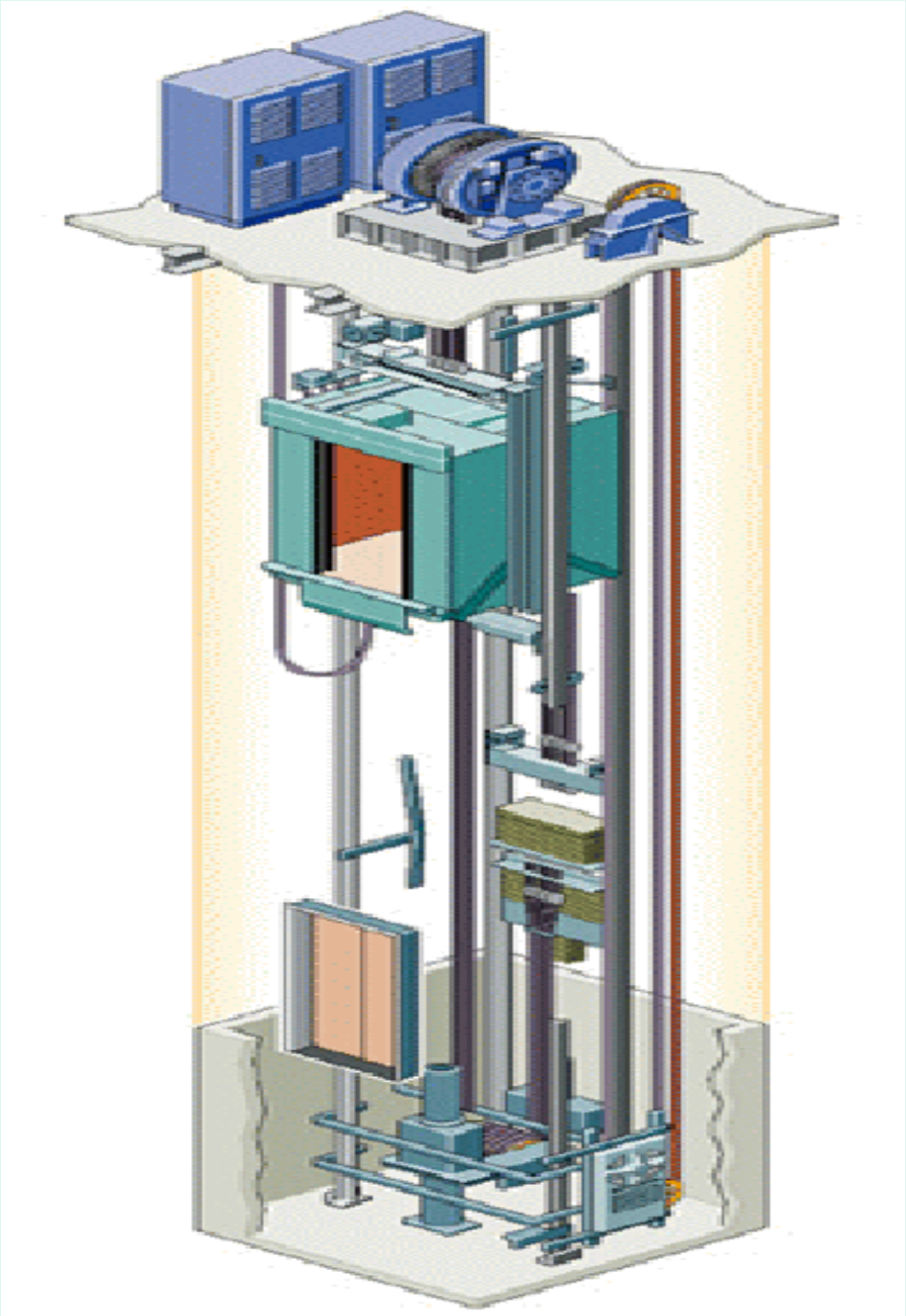
TYPES OF LIFT SYSTEMS

- **LIFT HYDRAULIC**
- **LIFT ELECTRIC**

HYDRAULIC LIFT



ELECTRIC LIFT



CATEGORIES OF LIFTS

- PASSENGER LIFTS
- BED / PASSENGER LIFTS
- GOOD / SERVICE LIFTS
- BOMBA LIFT

CHARACTERISTICS

- PASSENGER LIFT

  Capacity 6 to 23 people (1600kg)
  Speed 1 to 3 m/s

- BEDS/PASSENGER

  Capacity 23 people (1600 kg)

  Speed 1 to 1.6 m/s

- GOODS/SERVICE
  - Capacity >900 kg
  - Speed 0.5 to 3.5 m/s
- BOMBA
  - Capacity 6 to 23 people
  - Can be operated during fire situation

DESIGN REQUIREMENT

GENERAL CONSIDERATION

- Application
- Office building/Hospital/commercial
- Capacity & Nos. Of Lift
- Traffic and size of building
- Speed of lift
- Number of stops and traffic load
- Lift Doors
- Depends on application
- Number of stops/opening
- Depends on building height, applications

OTHER REQUIREMENT

- Electrical switch boards and power points in lift motor rooms
- Ventillation fans and lightings in machine rooms
- Cat Ladders and power points in lift pits
- Structural openings in lift motor rooms, hoistways etc.

MAJOR LIFT COMPONENTS

- LIFT MOTOR

  2 direction motor to drive the lift car upwards and downwards.

- SELECTOR

  Records position of lift car and tansmits messages to the controller.

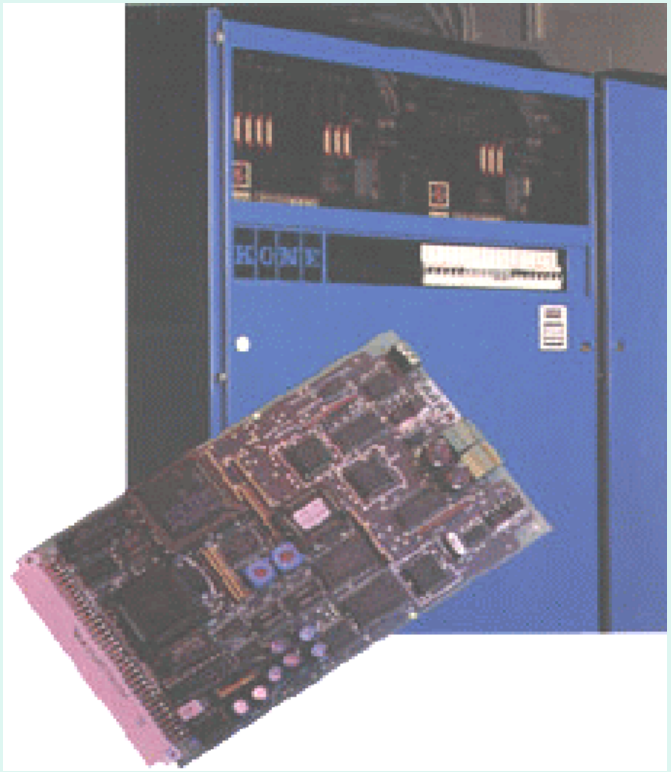
- CONTROLLER

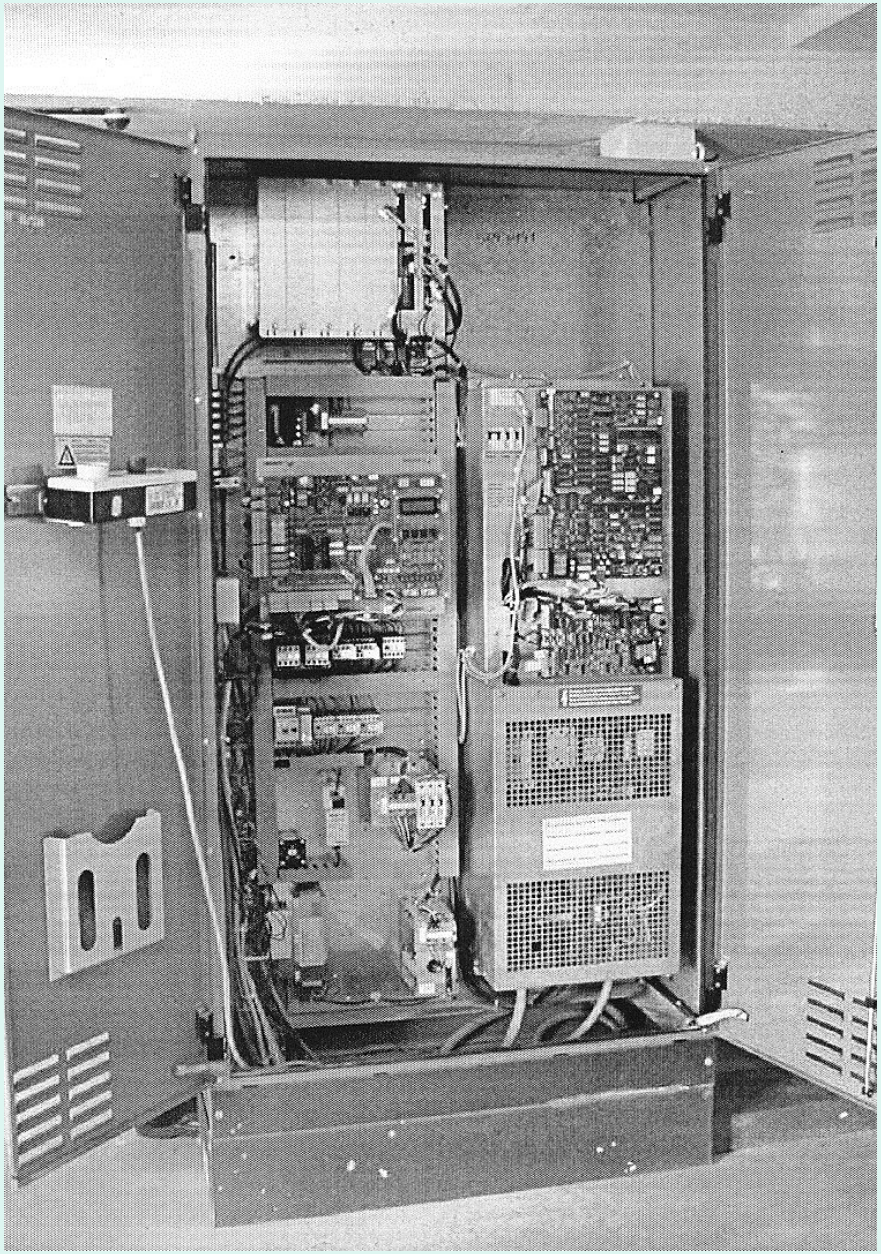
  Controls overall operation of the lift.

- GOVERNOR

  Triggering the safety gears to stop the lift should the overspeeds on its downwards travel.

CONTROLLER





LIFT MOTOR

MAJOR LIFT COMPONENTS AT LIFT SHAFT

- LIFT CAR AND DOOR

  To contain people and goods.

- COUNTERWEIGHT

  To balance the load of the car to ease work of motor.

- HOISTING ROPE

  To hoist the car and counterweight up and down the shaft via the motor.

- BUFFER

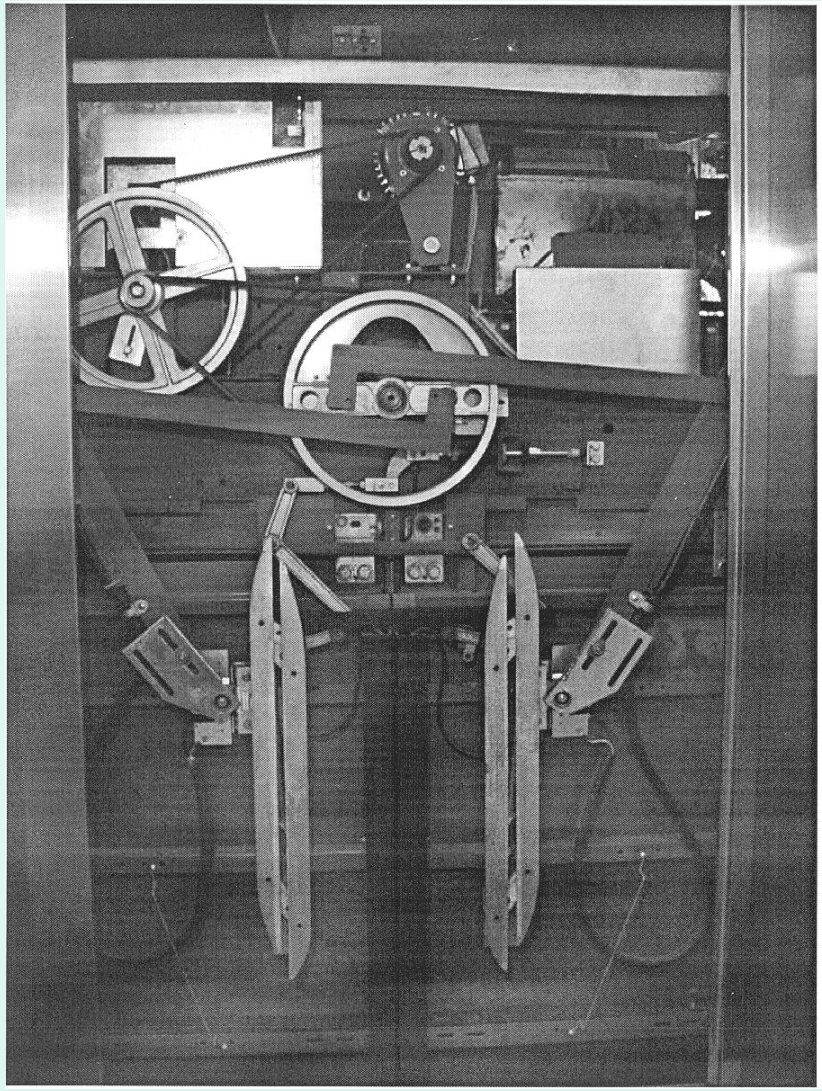
  To stop descending lift or counterweight should it overtravel by absorbing the kinetic energy.

- GUIDE RAILS

  To guide the travel of the car and counterweight.

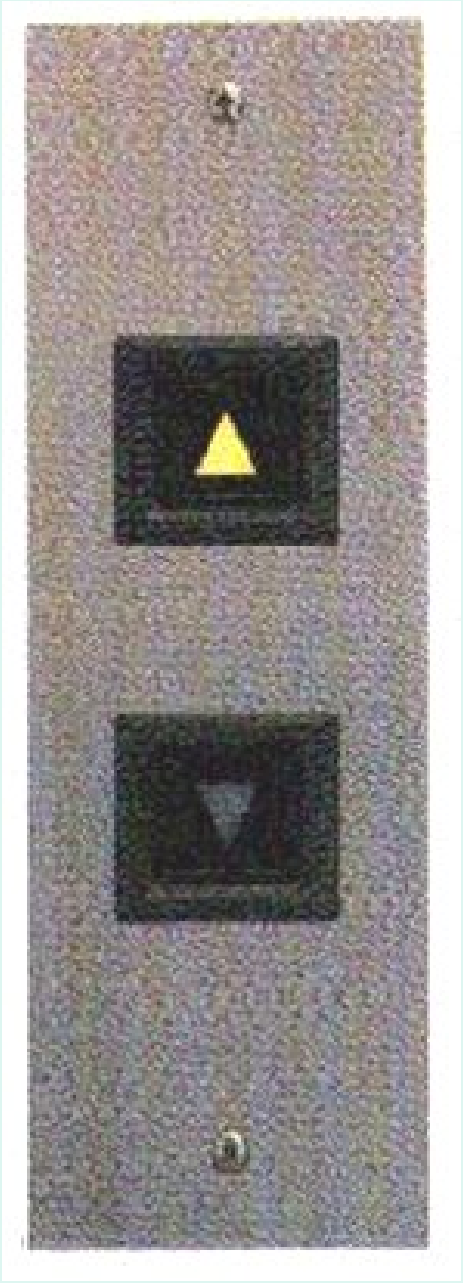
LIFT LOBBY

LIFT DOOR

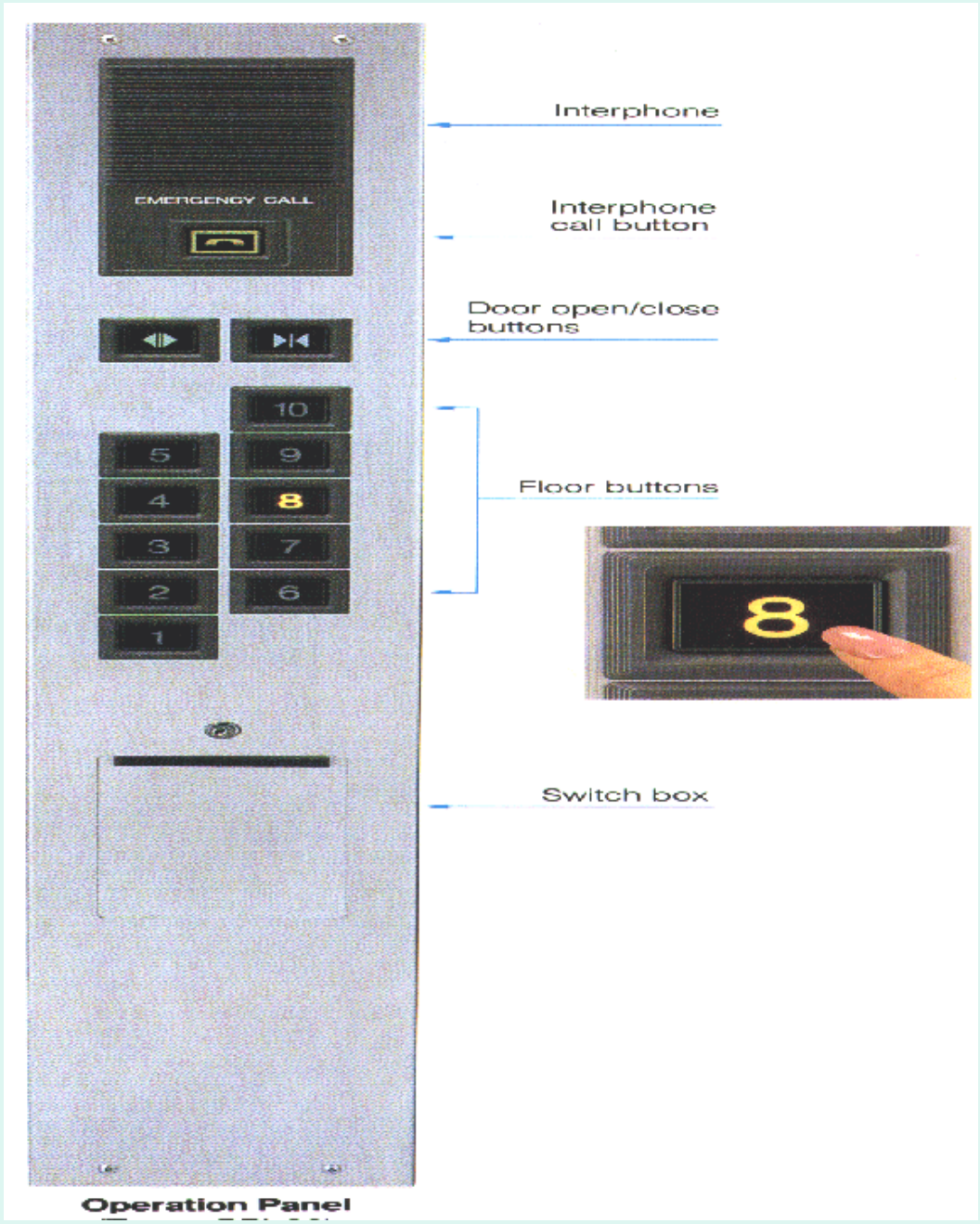


CEILING PANEL

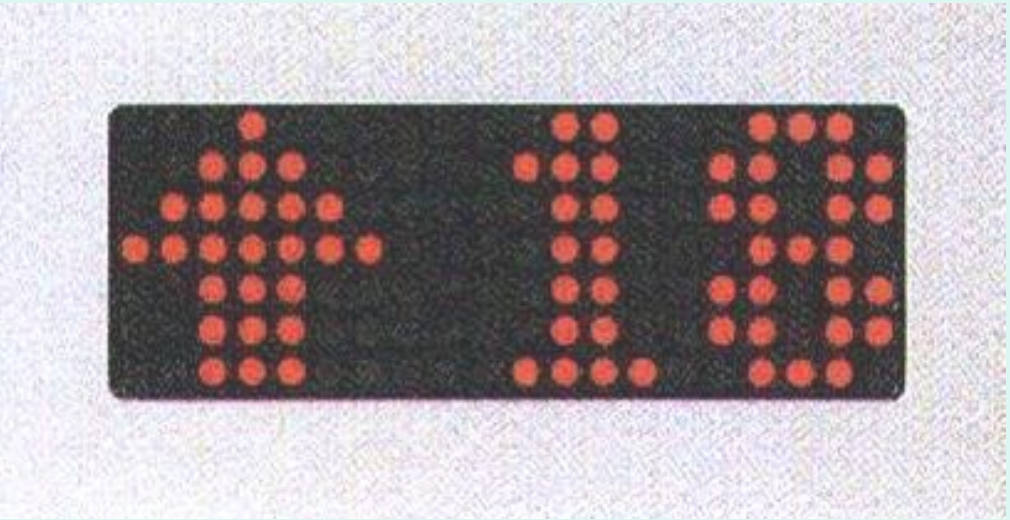
CALL BUTTON

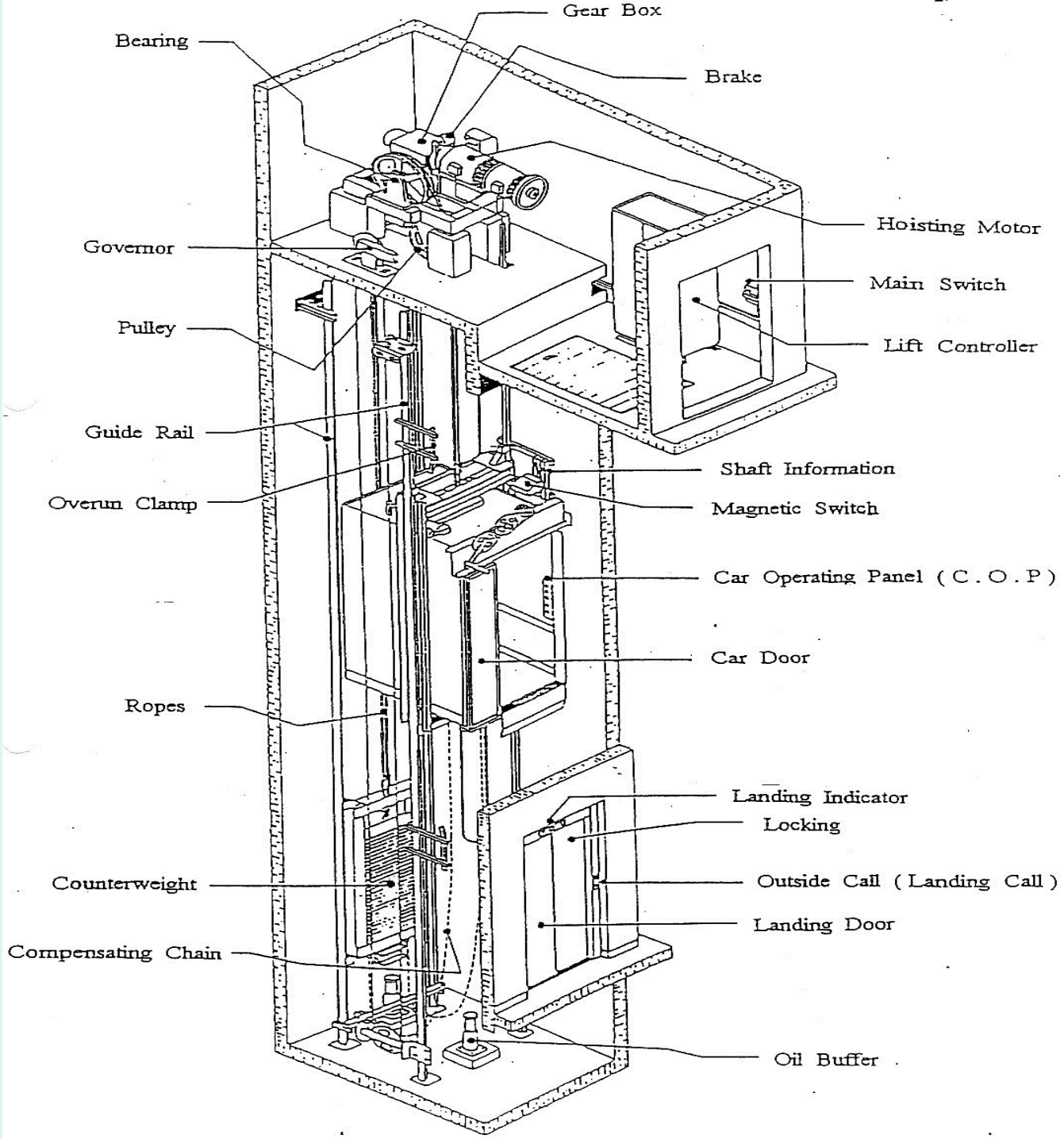


OPERATION PANEL



INDICATOR




Gear Box
Bearing
Brake
Hoisting Motor
Governor
Main Switch
Pulley
Lift Controller
Guide Rail
Shaft Information
Overun Clamp
Magnetic Switch
Car Operating Panel (C . O . P)
Car Door
Ropes
Landing Indicator
Locking
Counterweight
Outside Call (Landing Call)
Landing Door
Compensating Chain
Oil Buffer

SAFETY FEATURES OF A LIFT

- SPEED GOVERNOR

  Mechanical and electrical, prevent overspeeding.

- BUFFER

  Spring or oil, to stop lift car and/or counterweight should it overtravel downwards.

- SAFETY GEAR

  Stops the lift should it overspeed in the downwards direction.

- BRAKE

  Stops the lift in the failure of Normal supply and when the lift stops at a landing.

- WORM GEAR

  Non slipping even when machine is not running.

- THERMIC DEVICES

  In motor windings to prevent overheating of motor.

- ELECTRICAL FUSES

  Prevent overloading of electrical equipment and components.

- ROPES

  Sufficient ropes with generous safety factor to prevent any mishap 10 - 15 % safety factor.

- OVERLOAD NON-START

  Micro switches beneath lift platform to prevent tarting of lift when it's overload.

- DOOR INTERLOCK

  To ensure both car and landing doors are fully closed before the lift starts moving. This is an electro-mechanical interlock.

- DOOR SAFETY SHOE

  Rectractable shoe, light ray, electronic door to prevent closure of doors when an object e.g. a person etc is present between thedoors.

- WEIGHT CLOSER

  A rope weight system to close a landing door by gravity when the car door is not engaged.

SEKIAN
TERIMA KASIH

PENGIRAAN COUNTER WEIGHT

- Berat kereta = 900 kg
- Berat muatan = 960 kg

Imbangan pada 50%

= 900 + (960x50%)

= 900 + 480

= 1380 kg

*Imbangan kabel lif telah dibuat oleh compensating chain.