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DEPARTMENT OF MECHANICAL ENGINEERING

POWER GENERATED FORM TURBO VENTILATOR

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Guide:.

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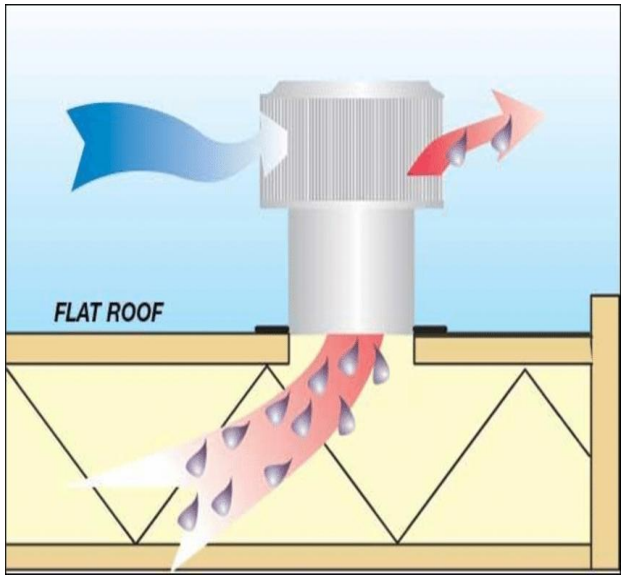
WHAT IS TURBO VENTILATORS

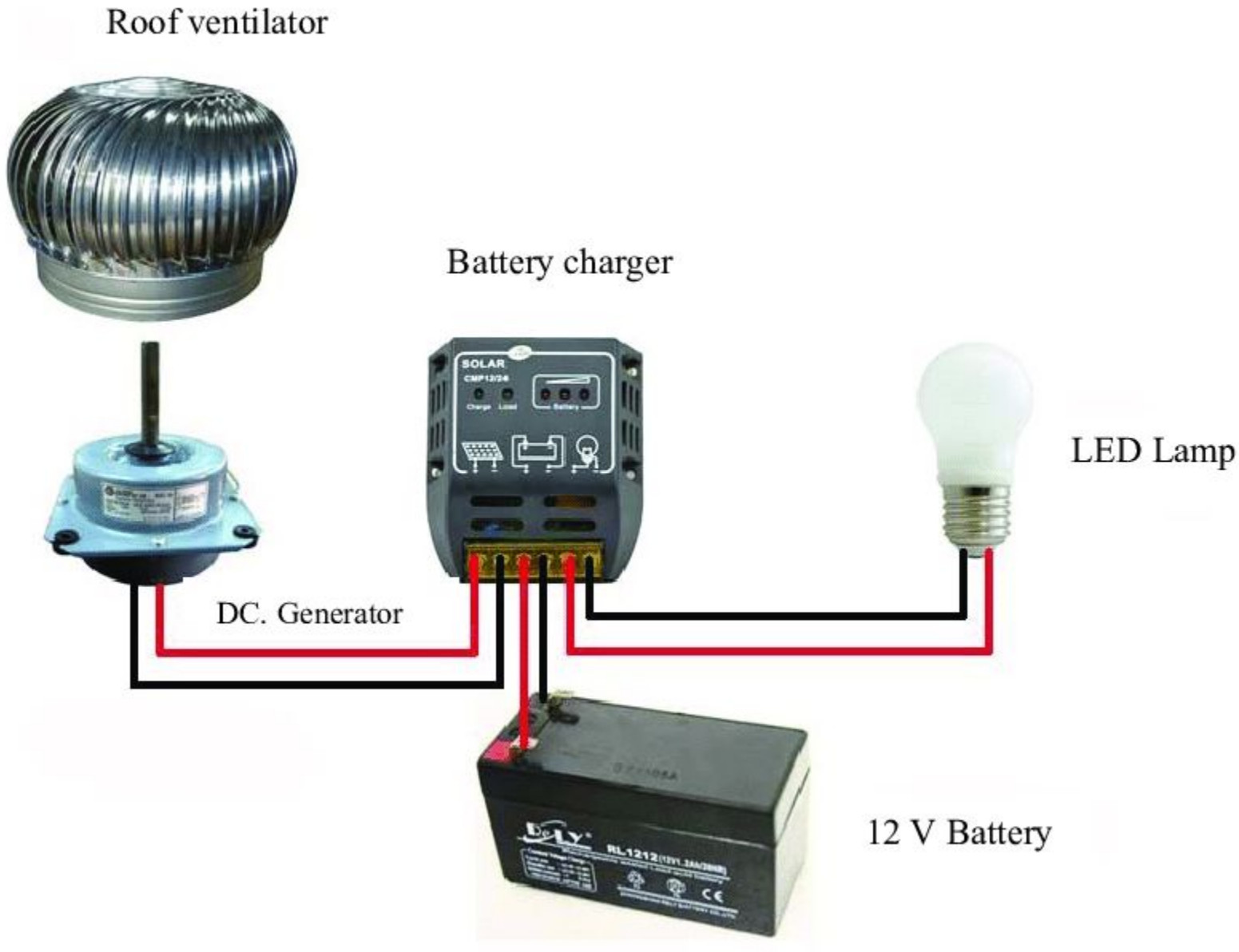
- Wind driven industrial turbo roof ventilators are designed to exhaust hot air and industrial pollutants such as dust, poisonous gases, fumes, heat, humidity, odor, stale air, dampness and other invisible irritants and Pollutant particles from the building and industrial sheds

- These Turbo Air Ventilator are very light weight, high corrosion resistant. maintenance free, energy saving and provides efficient operation vent in a breeze of wind.
- Turbo Air Ventilator is designed in 24 inches fitted with hall bearing stainless steel shaft to provide almost zero noise operation



The working principle

The flow of air entering the turbo ventilator moves in the same direction as that of the rotation of the turbine and naturally becomes the force to push on the rotation of the turbine. The left-hand side flow then flows along the turbo ventilator to the wake region


Roof ventilator
Battery charger
SOLAR
LED Lamp
DC. Generator
12 V Battery

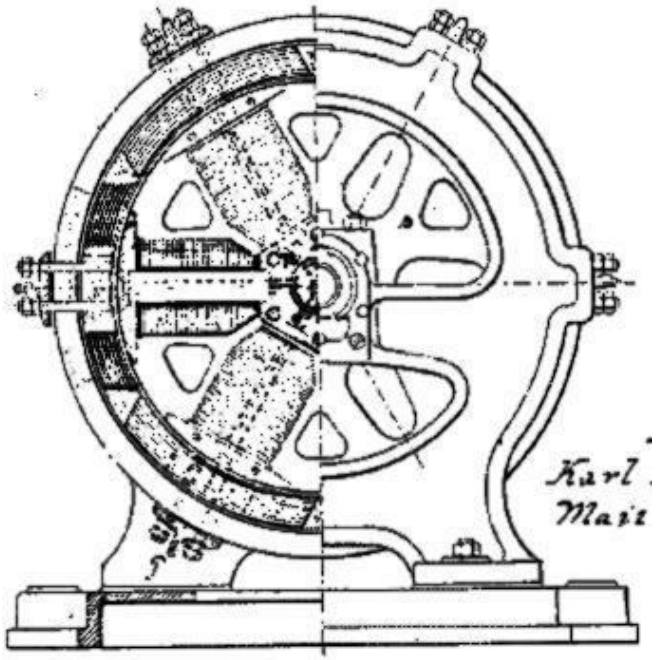
TURBO VENTILATOR

- Good ventilation system can be a secret of success to any industry as it plays an important role in enhancing worker's efficiency & productivity.
- But providing good ventilation system in industrial sector becomes costly affair as it involves huge investment, energy consumption & recurring expenditure on maintenance.

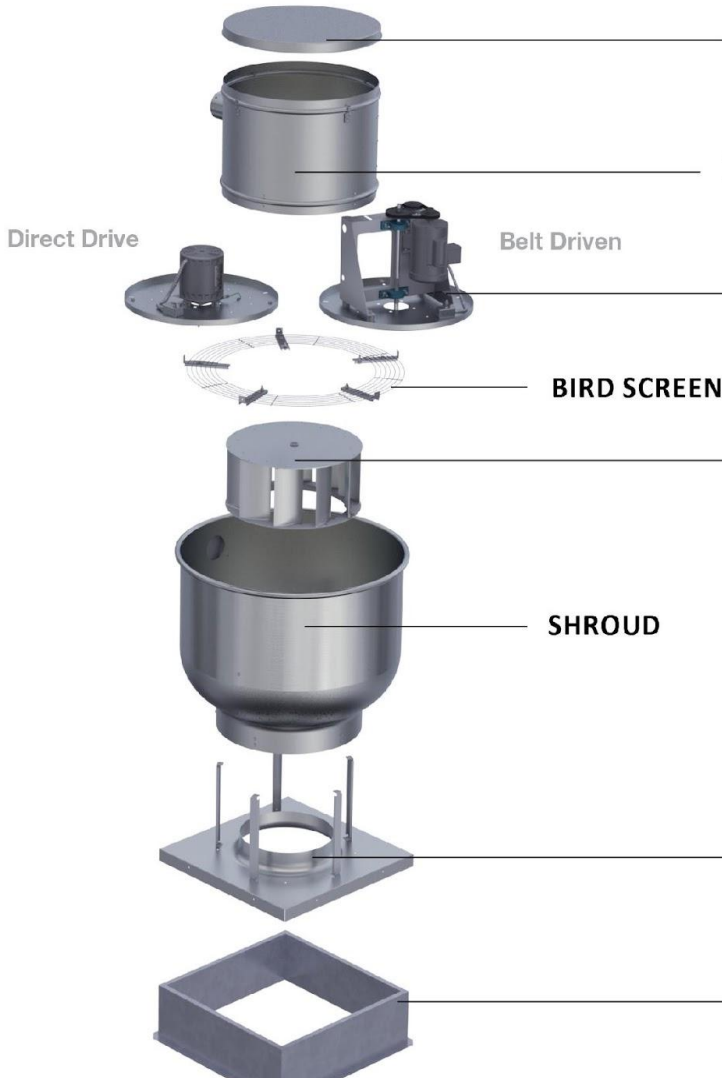
A rainproof do me is on top of the frame. When wind blows on the blades the resulting lift and drag forces cause the turbine to rotate. Due to this rotation, produces a negative pressure at the centre of the turbine ventilator which extracts hot air.

DYNAMO

- A dynamo is an electrical generator that creates direct current using a commutator.
- Dynamos were the first electrical generators capable of delivering power
- Dynamo converted **mechanical energy** into **electric energy**
- The electric dynamo uses rotating coils of wire a fields to convert mechanical rotation into a pulsi electric current
- The dynamo works under the **FARADAY'S LAW**



UPBLAST CENTRIFUGAL ROOF EXHAUSTERS



DOWNBLAST CENTRIFUGAL ROOF EXHAUSTERS

PULLEY

- A pulley is a wheel that carries a flexible rope, cord, cable, chain, or belt on its rim.
- Pulleys are used singly or in combination to transmit energy and motion.
- A pulley is a basic device or machine made of

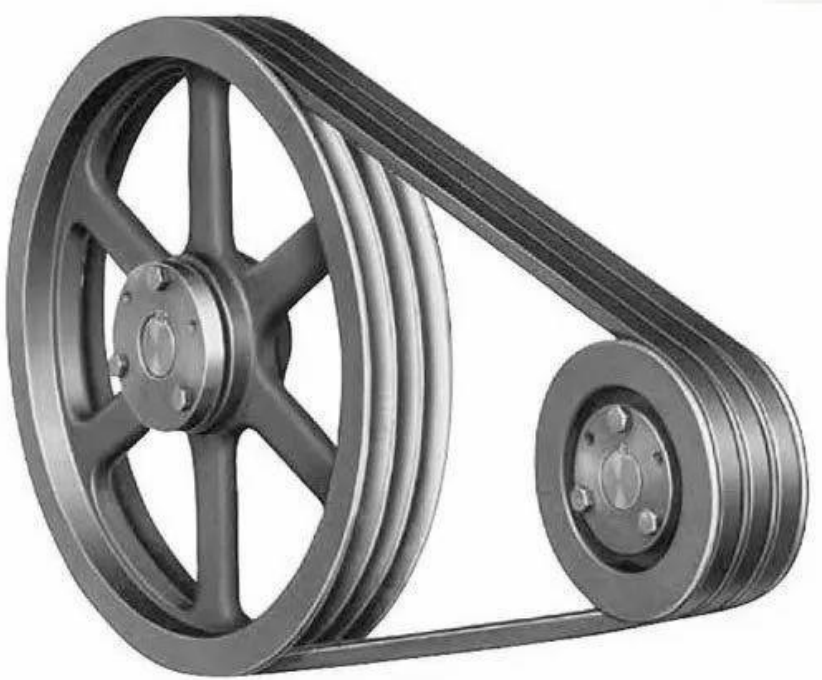
  a wheel with a rim that a cord or rope fits around.

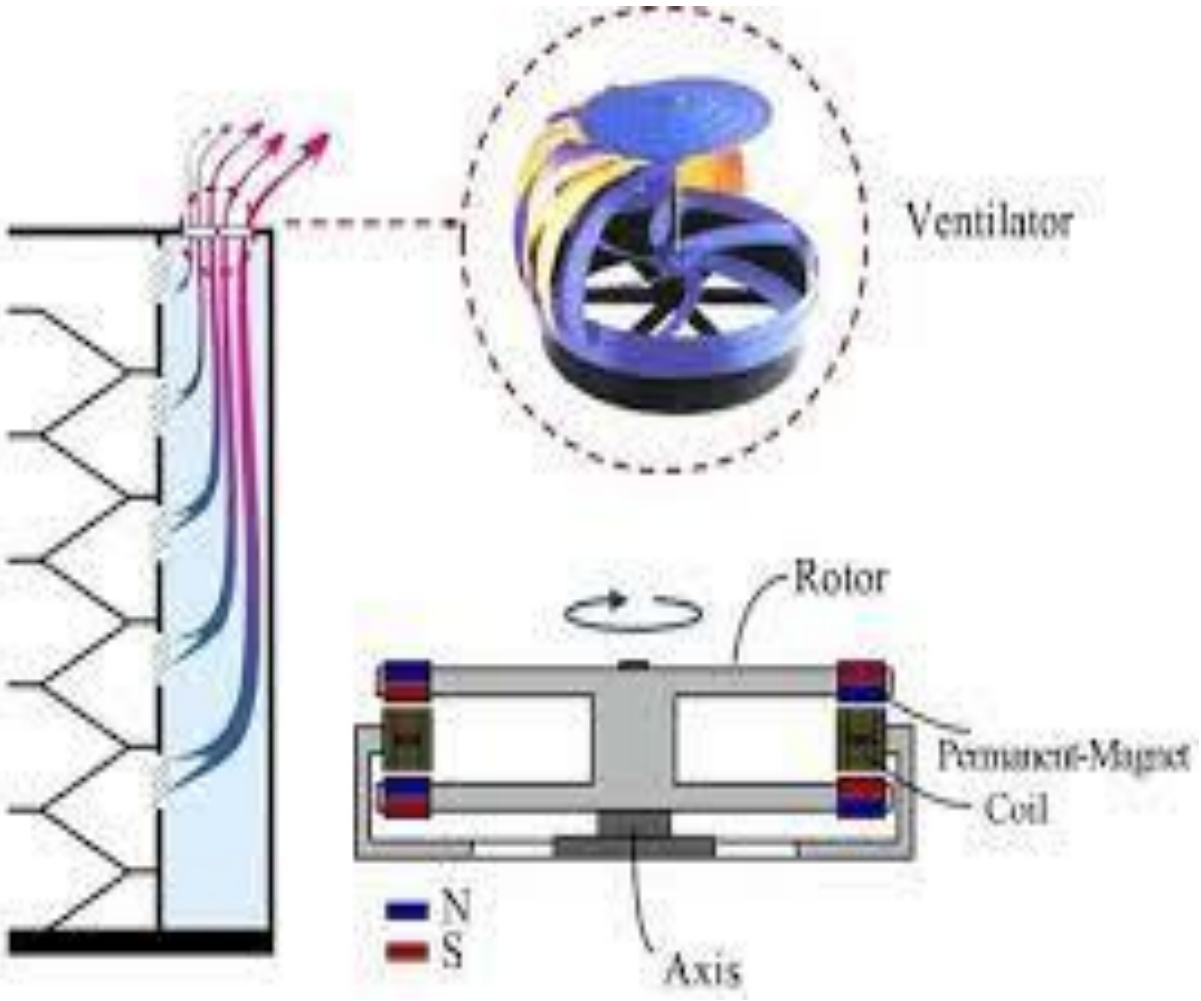
BELT

- A belt drive is a frictional drive that transmits power between two or more shafts using pulleys and an elastic belt.
- There are two kinds of drive belts

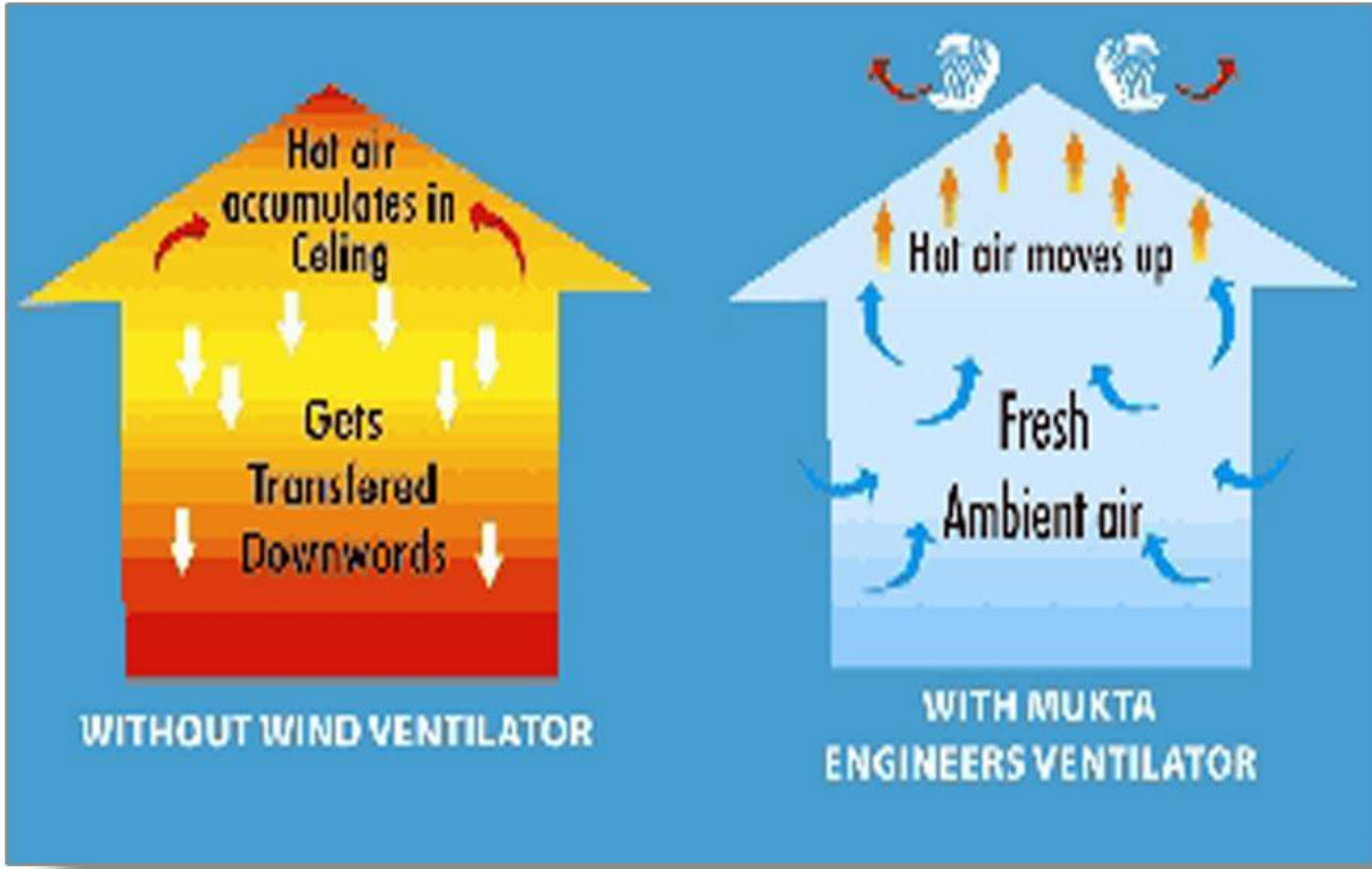
  V-belts and **serpentine belts.**
- Transmission of mechanical

  power between two rotating shafts





Air enters the turbine axially via the base duct and then expelled radially. In the absence of wind, a turbine ventilator still remains effective due to stack effect.


Hot air
accumulates in
Celing
Gets
Translered
Downwords
WITHOUT WIND VENTILATOR
Hot air moves up
Fresh
Ambient air
WITH MUKTA
ENGINEERS VENTILATOR

ADVANTAGES

- Easier to installation.
- Two in one process.
- Helps to control the temperature.
- Proper ventilation keeps the air fresh and healthy indoors

DISADVANTAGE

- Higher amount rate.
- The moving parts can become quite noisy as they age.
- Installation is very complexity.
- Wind plants can impact local wildlife.


Thank yo