

## 2.2 (ΘΕΡΜΑΝΣΗ-ΨΥΞΗ-ΚΛΙΜΑΤΙΣΜΟΣ II) – (HEATING-COOLING-AIR CONDITIONING II)

### A

**Αδιαβατική μεταβολή :** **Adiabatic process**

**Definition:** It is a type of thermodynamic process that occurs without transferring heat or mass between the thermodynamic system and its environment.

**Example:** In an **adiabatic process**, the system is in equilibrium at all stages.

**Αερόθερμο :** **Fan heater**

**Definition:** It's a heater that works by using a fan to pass air over a heat source.



Εικόνα 15. Απεικόνιση Αερόθερμου

**Ακτινοβολία :** **Radiation**

**Definition:** It's a form of energy that comes from a nuclear reaction and it can be very dangerous to health.

**Example:** There is some danger of low level of **radiation**.

**Απόλυτη πίεση :** **Absolute pressure**

**Definition:** It is zero-referenced against a perfect vacuum, using an absolute scale, so it is equal to gauge pressure plus atmospheric pressure.

**Απορρόφηση :** **Absorption**

**Definition:** Absorption is the process of one material being retained by another.

**Απόσβεση :** **Damping**

**Definition:** It is an influence within or upon an oscillatory system that has the effect of reducing or preventing its oscillation.

**Αφυγραντήρας :** **Dehumidifier**

**Definition:** It is an electrical appliance which reduces and maintains the level of humidity in the air.

## **B**

**Βαλβίδα πεταλούδας :** **Butterfly valve**

**Definition:** It's a valve that isolates or regulates the flow of a fluid.

**Βαλβίδα βραχυκυκλώσεως :** **Blowoff valve**

**Definition:** It's a pressure released system present in most turbocharged engines.

## **Δ**

**Δείκτης Ιξώδους :** **Viscosity Index**

**Definition:** It is an arbitrary, unit-less measure of a fluid's change in viscosity relative to temperature change.

**Διακόπτης :** **Switch**

**Definition:** It's a small device, usually pushed up or down with your finger that controls and turns on or off an electric current.

**Example:** A light **switch**.

**Διαπερατότητα :** **Permeability**

**Definition:** It is the measure of magnetization that a material obtains in response to an applied magnetic field.

**Διαφορική πίεση :** **Differential pressure**

**Definition:** It is the difference in pressure between two points.

**Διαφορικός :** **Differential**

**Definition:** Differential refers to infinitesimal differences or to the derivatives of functions.

**Example:** A price **differential**.

**Διέγερση :** **Excitation**

**Definition:** The process of generating a magnetic field by means of an electric current is called excitation.

**Δυναμόμετρο :** **Dynamometer**

**Definition:** Dynamometer is a device for simultaneously measuring the torque and rotational speed of an engine, motor or other rotating prime mover.

**Δυναμοκινητήρας :** **Dynamotor**



Εικόνα 16. Απεικόνιση Δυναμοκινητήρα

## E

**Ειδική υγρασία :** **Specific humidity**

**Definition:** It is the ratio of the mass of water vapor to the total mass of the air parcel.

**Ενθαλπία :** **Enthalpy**

**Definition:** It is the property of a thermodynamic system, and is defined as the sum of the system's internal energy and the product of its pressure and volume.

**Εξαγωγή :** **Export**

**Definition:** Export is a good produced in one country that is sold into another country or a service provided in one country for a national or resident of another country.

**Example:** Italian cheeses are **exported** to many different countries.

**Εξαέρωση :** **Gasification**

**Definition:** It's a process that converts biomass-or fossil fuels-based carbonaceous material into gases.

**Example:** Underground **gasification** is also considered as coal liquefaction.

**Εξατμιστής :** **Evaporator**

**Definition:** It's a device in a process used to turn the liquid form of a chemical substance such as water into its gaseous-form/vapor.

## Θ

**Θερμαντήρας :** **Heater**

**Definition:** Heaters are appliances whose purpose is to generate heat for the buildings.

**Example:** An electric **heater**.

**Θερμαντήρας λαδιού :** **Oil heater**

**Definition:** It's a common form of convection heater used in domestic heating.



Εικόνα 17. Απεικόνιση Θερμαντήρα λαδιού

**Θερμική αγωγιμότητα :** **Thermal conductivity**

**Definition:** The thermal conductivity of a material is a measure of its ability to conduct heat.

**Θερμική ακτινοβολία :** **Thermal Radiation**

**Definition:** It is electromagnetic radiation generated by the thermal motion of particles in matter.

**Θερμική αντίσταση :** **Thermal resistance**

**Definition:** It's a heat property and a measurement of a temperature difference by which an object or material resists a heat flow.

**Θερμοπερατότητα :** **Thermal transmittance.**

**Definition:** It is the rate of transfer of heat through matter.

**Θερμοστάτης :** **Thermostat**

**Definition:** It is a regulating device component which senses the temperature of a physical system and performs actions so that the system's temperature is maintained near a desired set point.



Εικόνα 18. Απεικόνιση θερμοστάτη

**Θερμοστοιχείο :** **Thermocouple**

**Definition:** It is an electrical device consisting of two dissimilar electrical conductors forming electrical junction.

I

**Ιξώδες :** **Viscosity**

**Definition:** It's a measure of resistance to deformation at a given rate.

**Example:** Some liquids, like pitch and glass, have such high viscosity they behave like solids.

K

**Κλιματισμός :** **Air conditioning**

**Definition:** It is the process of removing heat and controlling the humidity of air in an enclosed space to achieve a more comfortable interior environment by use of powered 'air conditioners' or a variety of other methods including passive cooling.

**Example:** My car has **air conditioning**.

Ξ

**Ξήρανση :** **Drying**

**Definition:** It's a mass transfer process consisting of the removal of water or another solvent.

**Example:** These plants grow well in **dry** soil.

## Π

**Πυκνότητα :** **Density**

**Definition:** The density of a substance is its mass per unit volume.

**Example:** We were unable to move because of the **density** of the crowd.

**Πυρόλυση :** **Pyrolysis**

**Definition:** It is the thermal decomposition of materials at elevated temperatures in an inert atmosphere.

**Example:** **Pyrolysis** is a technique used to break chemical bonds of molecules by the use of thermal energy only.

## Ρ

**Ρευστό :** **Fluid**

**Definition:** It's a liquid, gas or other material that continually deforms under an applied shear stress, or external force.

**Example:** Power steering **fluid**.

## Σ

**Σπηλαίωση :** **Cavitation**

**Definition:** It's a phenomenon in which the static pressure of a liquid reduces to below the liquid's vapour pressure, leading to the formation of small vapor-filled cavities in the liquid.

**Example:** **Cavitation** can occur at the travelling edge of ship propellers.

**Συμπιεστής :** **Compressor**

**Definition:** It is the mechanical device that increases the pressure of a gas by reducing its volume.

**Συμπύκνωση :** **Concentration**

**Definition:** It is the abundance of a constituent divided by the total volume of a mixture.

**Example:** There is a heavy **concentration** of troops in the area.

**Σύνδεση :** **Connection**

**Definition:** Connection is the state of being related to someone or something else.

**Example:** There is **connection** between them.

**Σφάλμα :** **Mistake**

**Definition:** It is an action, decision, or judgement that produces an unwanted or unintentional result.

**Example:** We all make **mistakes**.

**Σχετική υγρασία :** **Relative humidity**

**Definition:** It is often expressed as a percentage, indicates a present state of absolute humidity relative to a maximum humidity given the same temperature.

**Σχετική πυκνότητα :** **Relative density**

**Definition:** It is the ratio of the density of a substance to the density of a given reference material.

## T

**Τέφρα :** **Ash**

**Definition:** They are the solid remnants of fires.

**Example:** Volcanic **ash**.

## Y

**Υγραντήρας :** **Humidifier**

**Definition:** It's a device, primarily an electrical appliance that increases humidity in a single room or an entire building.





Εικόνα 19. Απεικόνιση υγραντήρα

## Φ

**Φίλτρο αέρα :** **Air filter**

**Definition:** It's a device composed of fibrous, or porous materials which removes solid particulates such as dust, pollen, mold, and bacteria from the air.

**Φυγοκεντρικός ανεμιστήρας :** **Centrifugal fan**

**Definition:** It's a mechanical device for moving air or other gases in a direction at an angle to the incoming fluid.

## Χ

**Χωρητικότητα :** **Capacity**

**Definition:** It is the total amount that can be contained.

**Example:** The stadium has a seating **capacity** of 30,000.

## Ψ

**Ψύκτης λαδιού :** **Oil cooler**

**Definition:** The hot engine transfers heat to the oil which then usually passes through a heat-exchanger.