

Event:

Date:


Place:

Technical Seminar
DEDICATED VENTILATION APPLICATIONS

Industrial - Kitchen - Smoke Control - Filters

October 11, 2023 - Athens, Hellas



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Presentation title:	HVAC Systems for Cleanrooms (Pharma)	

The presentation refers to issues of Air Conditioning and Ventilation systems for "clean" spaces and is divided into 4 sections:

Section 1

Presentation of current legislative framework:

- Legislation
- Regulations/Directions
- Directives
- Standards

Description of "clean" spaces:

- Biological Laboratories
- Hospitals (Surgeries, etc.)
- Premises of Pharmaceutical production industries
- Semiconductor Production Industry Areas
- and in general, "cleanrooms" for the production of other Industrial products

Section 2

Analysis of study requirements:

- Space "cleanliness" category, "at-rest" (15-20min after the end of the operation of the space) / "in-operation" (per ISO 14644-1 and FDA ISO/TC209 as a replacement for FS 209E)
- Air exchange requirements
- Fresh air percentage requirements
- Air exchange requirements
- Temperature Requirements
- Relative Humidity Requirements
- Δp requirements between spaces
- Laminar flow requirements
- Min desktop speed requirements
- Positions for installation of inlets (with filters or not)
- Positions for installation of return outlets (with filters or not)
- Equipment requirements (Filters, PPE, Airtightness of Duct/Equipment networks, etc.)

Section 3

Presentation of typical examples after their calculations.

Section 4

Questions, answers.

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CV:

Mechanical Engineer with 30 years of experience in Electromechanical studies of complex building and Industrial projects with particular expertise in Hospitals and Cleanrooms.

Member of TEE, Energy inspector of Category C buildings, member of ASHRAE.

Former Technical Director of "IASO" Hospital

E/M plant studies:

Hospitals	:	151.804	m ²
Hotels	:	65.561	m ²
Industries (Clean Rooms, etc)	:	44.242	m ²
Offices	:	140.930	m ²
Super Markets	:	1.699	m ²
Shops - Malls	:	69.805	m ²
Special buildings (Town Halls, Multipurpose Rooms, Health Diagnostics, Military, etc)	:	201.785	m ²
Luxury Residences	:	42.593	m ²
<u>Project management</u>	:	25.204	m ²
<u>LEED (certifications)</u>	:	11.238	m ²