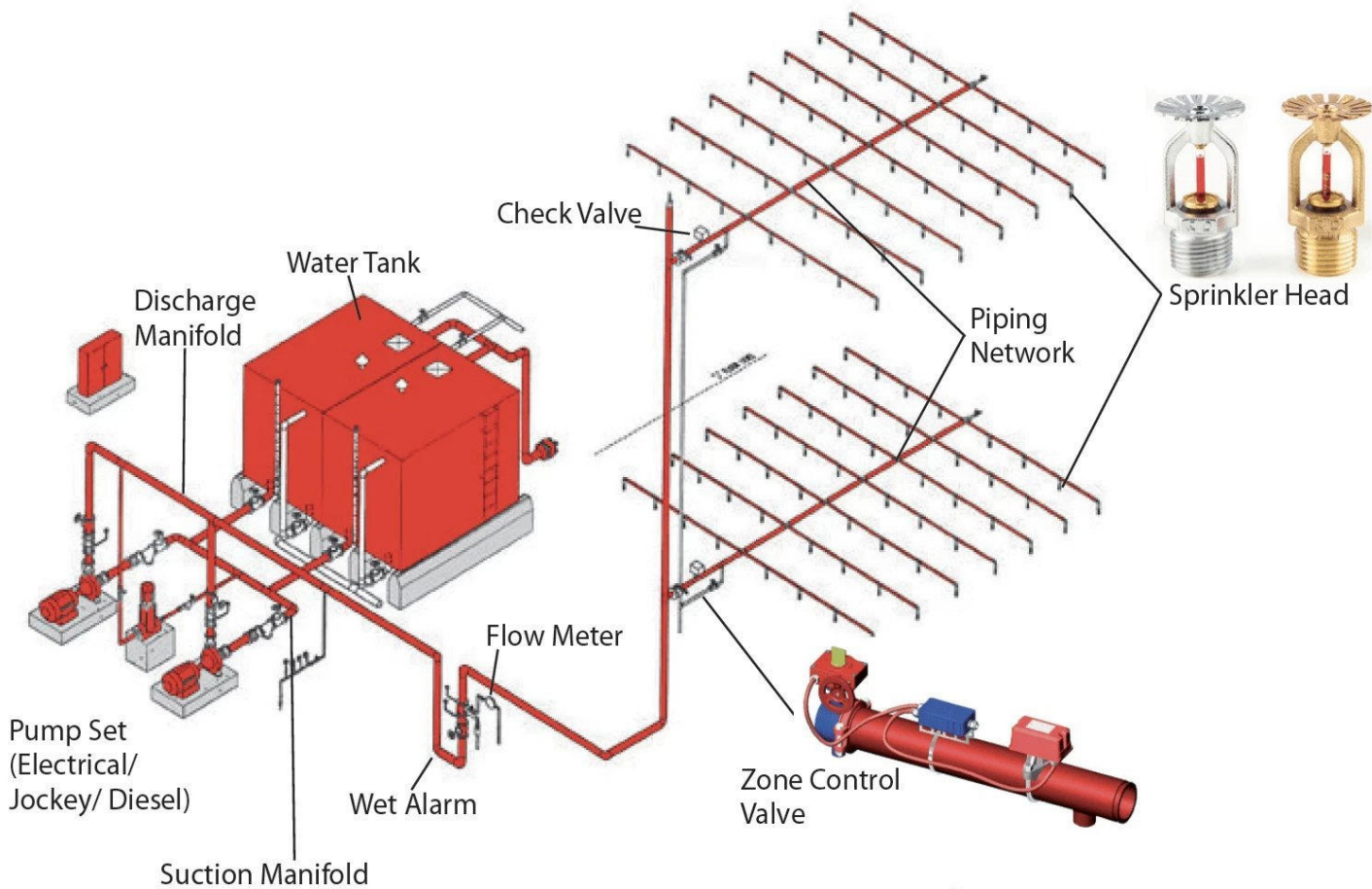


# FIREFIGHTING

## DESIGN & DRAFTING TRAINING

Empowering Engineers for Real-World MEP Projects



# Ready to Power Up Your Career?

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## PROGRAMME DESCRIPTION

### FIRE FIGHTING Design & Drafting for the Construction Industry

KG-MECH Pvt. Ltd. with inception has been diversified its business in different service sectors such as Contracting, Real time training, Technical Services.

**“KG MECH was founded with an idea of bridging the gap between the talented, yet unpolished resources and the employers for better hiring and achievement of the goals.”**

KG-MECH offers leadership and training programs for the advancement of Engineer's technical excellence, promotes to incorporate code of ethics in their way of life and place of work. The high level of expertise they deliver makes sure that the student learns the concept and performs it with high caliber.

**“80% Practical Training & 20% Theoretical Training”**

At KG MECH, we term Real Time Training as a methodology and practice instituted upon the trainees to improve their skills and match the job requirements. Our trainees are been made to work on the Gulf-oriented projects rigorously with expert supervision to build a bridge between the theoretical knowledge and the practical job work.

This program introduces the full range of FIRE FIGHTING Systems topics from the definitions, Basic Calculations-manual & software, Codes & Standards, Drafting and Installation Procedures. Each topic is presented so as to demonstrate the “real world” impact of design decisions on resulting system performance. (See the “Course Outline” section for details of topics.)

This Training Programme gives comprehensive knowledge of HVAC Design, Drafting & Installation of Building Service. The Programme focuses on the real time work related concepts, issues, which is enhanced by the inputs of the instructor's practical experience.

### WHO SHOULD ATTEND

Mechanical Engineers/ Designers/ Draftsman's who are responsible for design, drafting, installation, estimation and maintenance of HVAC system for Building & Facilities.

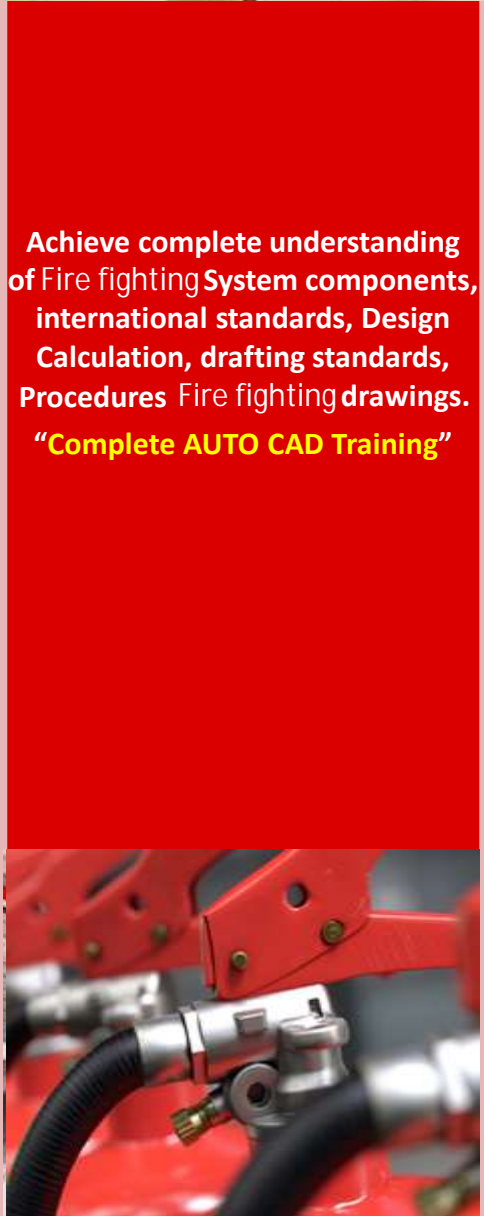
MEP Engineers/ Managers including Electrical, Instrumentation Engineers who wish to understand/ supervise Electro-Mechanical Projects.

Mechanical Engineers at entry or senior level, who wish to streamline their existing knowledge to make a career in HVAC Engineering for Building System.

### WHAT YOU WILL LEARN

Learn how Fire Fighting systems “work,” how to design, draft, install maintain Fire Fighting systems.





Achieve complete understanding of Fire fighting System components, international standards, Design Calculation, drafting standards, Procedures Fire fighting drawings.  
"Complete AUTO CAD Training"

## MODULE 01 – FIRE FIGHTING INTRODUCTION

### Introduction to Fire Fighting System

- Fire Fighting Introduction
- Fire Fighting - Codes & Standards
- Principles of Fire Fighting System
- Definitions & Symbols
- Application of Fire Fighting Systems

### Basic of Fire

- Introduction to Fire
- Chemistry of Fire
- The Fire Triangle
- The Fire Tetrahedron
- Extinguishment Considering the Fire Tetrahedron
- Hazardous/Combustible Materials

### Classification of Fires

- Class "A" Fires – NFPA & ISO
- Extinguishment of Class "A" Fires
- Class "B" Fires
- Extinguishment of Class "B" Fires
- Class "C" Fires
- Extinguishment of Class "C" Fires
- Class "D" Fires
- Extinguishment of Class "D" Fires
- Class "K" Fires
- Extinguishment of Class "K" Fires
- Classification of Hazards

## MODULE 02 – FIRE EXTINGUISHING SYSTEMS

- Fixed Gas Fire-extinguishing Systems
- CO2 Fire Extinguishing Systems
- FM-200 Fire Extinguishing System
- Fixed Water Fire-extinguishing Systems
- Water Spray System
- Water Sprinkler System





Achieve complete understanding of Fire fighting System components, international standards, Design Calculation, drafting standards, Procedures Fire fighting drawings.

**“Complete Shop Drawing Preparation along with BOQ”**



- Water Mist System
- Fire Hydrant system
- Foam Fire Extinguishing System
- Portable/Semi-portable Fire Extinguishers

## **MODULE 03 – FIXED WATER FIRE EXTINGUISHING SYSTEMS**

### **Introduction to Fixed Water Fire Extinguishing Systems**

- Fire Sprinkler System
- Wet Pipe System
- Dry Pipe System
- Pre-action System
- Deluge System
- Classification of Sprinkler
- Fire Sprinklers & types
- Application of Sprinklers types
- Classification of Occupancies – Hazards
- Light Hazards Occupancies
- Ordinary Hazards Occupancies
- Extra Hazards Occupancies

### **Water Sprinkler Fire Extinguishing System Designing**

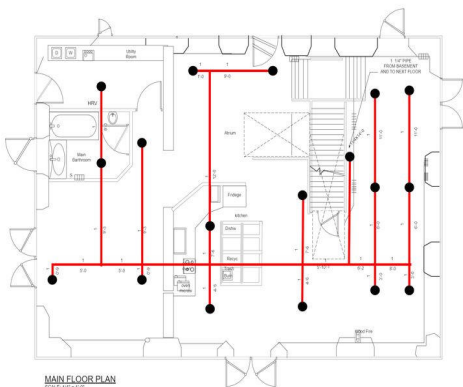
- Wet pipe Sprinkler System
- Component of Sprinkler System
- Sprinkler System Designing
- Selection of Sprinkler as per Project
- Sprinkler Layout
- Fire Pipe Routing
- Pipe Sizing as per NFPA
- Fire Hydrant System Design
- Selection of Pump for Fire Hydrant System
- Pump Head Calculation
- Selection of Pump- Electric, Diesel & Jockey Pump
- Selection of Valves & Fittings
- Pipe Joining Methods





Achieve complete understanding of Fire fighting System components, international standards, Design Calculation, drafting standards, Procedures Fire fighting drawings.

“Online & Class Room Training”



## MODULE 04 – FIXED GAS FIRE EXTINGUISHING SYSTEM

### Introduction to Fixed Gas Fire Extinguishing System

- Introduction to Gas Fire Extinguishing Systems
- Fire Suppression system
- Principles of Fire Suppression System
- Clean agent Function
- Types of Gas Fire Extinguishing Systems
- CO2 Fixed Gas Fire Extinguishing Systems
- FM-200 Fixed Gas Fire Extinguishing Systems
- NOVEC 1230 Fixed Gas Fire Extinguishing Systems
- Inert Gas Fixed Gas Fire Extinguishing Systems
- Application Areas of Gas Extinguishing System
- FM-200 Chemical Properties

### Fixed Gas Fire Extinguishing System Designing

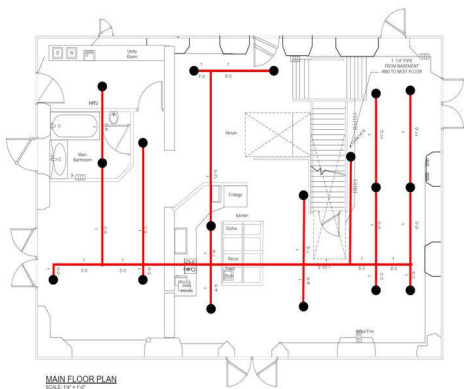
- Selection of Gas medium as per Project
- Fixed gas System Designing
- CO2 Gas Fire Extinguishing System
- FM-200 Gas Fire Extinguishing System
- NOVEC-1230 Gas Fire Extinguishing System
- Inert Gas Fire Extinguishing System
- Gas Pipe Routing
- Tank Sizing
- Intake manifold & Pipe Sizing
- Selection of Nozzle - 180° & 360° Nozzle
- FM-200 Cylinder Valve Assembly





Achieve complete understanding of Fire fighting System components, international standards, Design Calculation, drafting standards, Procedures Fire fighting drawings.

**“Online & Class Room Training”**



## **MODULE 05 – FIRE-FIGHTING SYSTEMS DRAFTING AUTOCAD**

- Sprinkler System Layout
  - Piping layout & Design
  - Single line drawing
  - Double line Drawing
  - Section & Schematic of Water Sprinkler System
  - Storage tank Detail Drawing
  - Pump Room Detail Drawings
  - Fixed gas Firefighting System Design
  - Section & Schematic of Gas System
  - Scale Setting & Plotting
  - Co-Ordination Drawing
  - As-Built Drawing
  - Model Management
  - Layout Management
  - Equipment Schedules
  - International Drawings
- 





**Mr. Syed Abdul Gaffar**  
M.Tech - HVAC, Design Specialist  
HRO – Education Director



**“Highly Experienced Trainers  
with GULF Experience”**



**INSTRUCTOR PROFILES**

Mr. Syed Abdul Gaffar, M.Tech – HVAC has over 12 years of experience in MEP systems including Design, Drafting, Installation & Maintenance of the MEP Systems with international Experience.

He has served to international projects of UAE, KSA, Qatar, USA & India, as Senior Mechanical Engineer & MEP Systems Manager. During his career, Mr. Syed Abdul Gaffar was involved in many prestigious projects like Residential, Commercial, Industrial & Schools Projects.

His Experience includes MEP Design for Building Services as per ASHRAE, SMACNA, NFPA, NEC, DEWA, ASME CODES.

Currently Mr. Syed Abdul Gaffar is a CEO, KG – MECH Electro-Mechanical LLC. He is also presiding the responsibilities as on Education Director, HRO (Human Rights Observers). He has successfully trained numerous Mechanical engineers from different nationalities for HVAC/MEP courses organized by KG – MECH.

Mr. Syed Abdul Gaffar is

- ❑ Education Director – HRO, Human Rights Observers, Hyderabad Cell.

Mr. Syed Abdul Gaffar is a member of

- ❑ NFPA – National Fire Protection Association
- ❑ ISHRAE – Indian Society of Heating Refrigeration & Air Conditioning Engineers
- ❑ IGBC – Indian Green Building Council
- ❑ IHRA – International Human Rights Association





Contact Us



**TRAININGS**

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