



*Training Course:
Chillers: Operation & Maintenance of Chilled
Water Systems*

15 - 19 September 2024

Cairo (Egypt)

Holiday Inn & Suites Cairo Maadi, an IHG Hotel

Training Course: Chillers: Operation & Maintenance of Chilled Water Systems

Training Course code: EN234602 From: 15 - 19 September 2024 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 3900 € Euro

Introduction

It is imperative that your water-cooling systems operates at maximum efficiency. In this hands-on chilled water systems seminar you will receive the critical information needed to increase your system's reliability.

The chiller is the heart of the refrigeration system which operates best with skilled technicians maintaining it. Gain hands-on practice and knowledge of instruments and test meters. Learn how to collect data and evaluate the chiller operation equipment. Become familiar with approach temperature and to interpret it in terms of the system operation.

Course Objectives of Operation & Maintenance of Chilled Water Systems

This training is for any person needing a basic seminar in Chilled Water Chiller systems.

Professions that benefit the most include:

- Chilled Water System Operators
- Refrigeration System Operators
- HVAC maintenance and Repair Technicians
- Plant & facility maintenance technicians
- Building engineers
- Building managers & superintendents
- Plant & facility managers
- Environmental health & safety personnel
- Apprentice and experienced HVAC technicians
- Stationary engineers
- Energy management personnel

What You'll Learn

Participants of the chillers operation and maintenance seminar will learn preventive maintenance and troubleshooting methods to ensure the system is always operating with the most efficiency and cost savings. Receive information on the latest techniques and technology.

Topics covered during this training include:

- Types, design and operation of chillers
- Thermodynamics and heat transfer
- Condensers water-cooled and air-cooled operation and maintenance
- Compression and absorption theory
- Cooling towers □ design operation
- Refrigeration prime movers and compressors
- Glycol anti-freeze systems
- Thermal storage systems
- Preventive maintenance and troubleshooting

Course Outlines of Operation & Maintenance of Chilled Water Systems

CHILLED WATER SYSTEMS

- Synopsis
- Component overview
- System design
- Associations, codes and standards

THERMODYNAMICS

- Heat transfer theory
- Heat vs. Temperature

REFRIGERATION THEORY

- The chilled-water refrigeration cycle
- Compression cycle theory
- Absorption cooling theory

REFRIGERANTS

- Compression cycle refrigerants
- Absorption-machine refrigerants

REFRIGERATION PRIME MOVERS

- Compressors
- Absorption machines

EVAPORATORS & LIQUID COOLERS

- Types of evaporators and liquid coolers
- Evaporator cooler operation
- Maintenance

CONDENSERS

- Types of condensers
- Air-cooled condensers
- Water-cooled condensers

METERING expansion DEVICES

- Metering devices
- Economizers

CONTROLS & CONTROL SYSTEMS

- Controls

CONTROL SYSTEMS PUMPS

- Pump theory
- Centrifugal pump operation
- Centrifugal pump configurations
- Pump maintenance and troubleshooting

PIPING SYSTEMS

- Copper tubing
- Steel pipe
- Valves
- Insulation of chilled water piping

CONDITIONED SPACE SYSTEMS

- Psychrometrics
- Air-cooling coils
- Fans
- Air filters

CLOSED-LOOP SYSTEM FLUIDS

- Water chemistry basics
- Corrosion inhibition
- Freeze protection using glycol fluids
- Cleaning closed-loop systems

HEAT REJECTION SYSTEMS

- Once-through waste-water systems
- Recirculating systems

OPEN SYSTEM WATER QUALITY

- Cooling tower water

- Cooling tower water treatment
- Water treatment equipment and systems
- Selection of a water treatment vendor

HEAT RECOVERY SYSTEMS

- Heat recovery principles

THERMAL STORAGE SYSTEMS

- Thermal storage theory
- Ice storage
- Stratified chilled water storage

Registration form on the Training Course: Chillers: Operation & Maintenance of Chilled Water Systems

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