

Who should attend?

**Design Engineers;
Maintenance and Operations
people in oil, Gas and
Petrochemical Industry. Also,
those seeking better
understanding of types of
Reciprocating compressors and
how these can be made use of in
various industries.**

Minimum Requirements

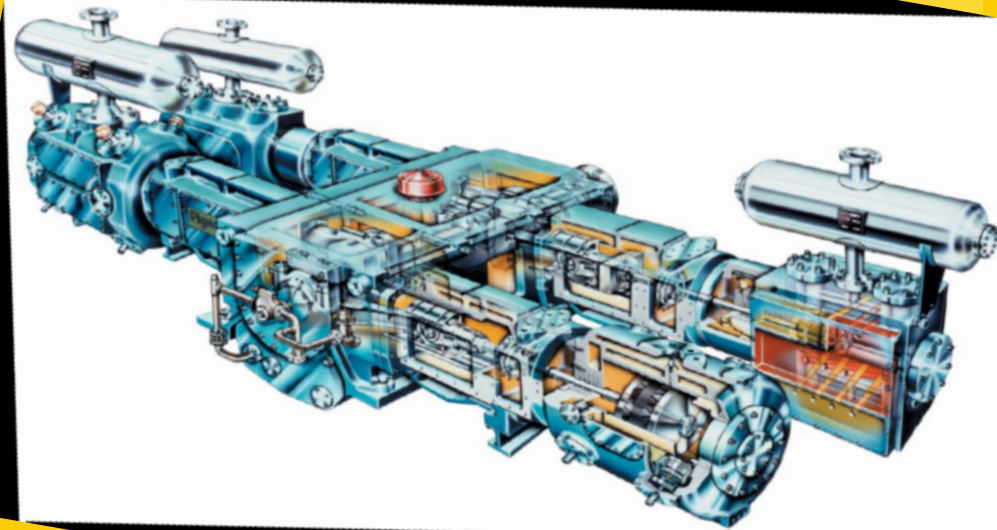
**may be Bachelor of Science
degree in Engineering from
accredited college or university
and at least one year of
experience.**

**Basic knowledge of Engineering
for Process Plants, knowledge
some rotating machines and
accessories. Availability of API
Std 618 and ISO 13631 codes and
related API codes is desirable.**



Thermodynamics and Reciprocating Compressors

**A SHORT COURSE ON
TUESDAY 17 NOV 2020
1:30 PM - 6:30 PM**



CONTACT US

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COURSE OVERVIEW / BENEFITS OF ATTENDING

Reciprocating Compressors are often some of the most critical and expensive systems at a production facility, and deserve special attention. Gas transmission pipelines, petrochemical plants, refineries and many other industries all depend on this type of equipment.

This course gives brief description of various types of Reciprocating Compressors, define & describe each of its key components, how to select types of machines, calculating its horsepower and physical (skid) dimensions using published vendor information without approaching vendors for quotations. This helps in establishing a baseline for design engineers, ensuring its availability in the market and verification of vendor's quotations when received.

Course Contents

Thermodynamics and Reciprocating Compressors

- **Type of Compressors**
- **Selection CGS and FPS units**
- **Different types of Positive Displacement Compressors**
- **Compressor Components**
- **Measurement and Tests**
- **High Speed and Low speed Compressors**
- **Thermodynamics – Ideal Gas Laws**
- **Gas Compressibility**
- **Temperature relationships**
- **Gas Heat Capacity ratios**
- **Adiabatic and Polytropic Process**
- **Head, Work and Efficiency**
- **Estimating Compressor Horsepower**
- **Specifying Flow to a Compressor**
- **Piston Displacements**
- **Clearance Volume**
- **Volumetric Efficiency**
- **Rod Loading**
- **Discharge Temperature**
- **Detailed Horsepower Calculations**

Non lubricated compressors
Recip. Compressors Controls
Capacity Control
Gas Pulsation Control
Comparison between
API 618 and ISO 13631
Piston Rod Run outs
Allowable Speeds
Rod and Gas Loads
Valves and Unloaders
Stepless capacity Control
Crank case, Crank shafts,
Connecting Rods
Distance Pieces
Packing cases and Packing
Compressor Frame Lubrication
Materials
Compressor Drivers
Couplings and Guards
Mounting Plates
Controls and Instrumentation
Piping and Appurtenances
Intercoolers, Aftercoolers
and Separators
Pulsation and Vibration Control
Inspection and Testing
Codes and Standards List
Typical Vendor Information



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