Speakers

Dr. Gunther Machu
Head of Global Product Management Compressor Solutions

Studied chemical engineering at the Technical University, Vienna; PhD in Fluidmechanics at the Technical University, Graz;
Speakers

Ing. André Eijk
Senior Mechanical Consultant

Bachelor’s in Mechanical Engineering;
Working for the TNO since 1979; Member of the task force groups of the API Standard 618 (reciprocating compressors), API 674 (reciprocating pumps) and API 688 (pulsation & vibration control of positive displacement machinery); project leader of the ISO Standard 10816-8 (standard for vibrations in reciprocating compressor systems); chairmen of the standardization group of the European Forum for Reciprocating Compressors (EFRC);
Agenda

0. Introduction
   • Speakers
   • Agenda
   • Types of compressors
   • Applications where recips are used

1. Manufacturing and sizing
   • API and NACE standards
   • Compressor sizing
   • Compressor limitations

2. Principles of compression
   • Gas law and working principle
   • Volumetric efficiency, calculating capacity and power
   • Valve losses
Agenda

3. Foundations and anchors
   • Introduction Anchor Bolt and Foundation Design
   • Static and Dynamic Loads for Anchor Bolt & Foundation Design
   • Concrete Block Design Rules
   • Soil, pile and foundation interaction
   • Choosing Anchor Bolts
   • Installation Anchor Bolts
   • Grout (Cement & Epoxy)
   • Thermal Expansion & Fatigue of Bolts

4. Installation, operation and maintenance
   • Best installation practices
   • Mechanical failure modes, how to recognize them, and what to do
   • Process-related (gas composition, piping configurations, etc.)
   • Maintenance-related (component defects, scheduling, etc.)
   • Operating-related (lubrication levels, off-design operation, etc.)
   • Control methods (bypass, step control, stepless, etc.)
   • Condition monitoring (parameters, machinery protection, etc.)
Agenda

5. Pulsation and vibration
   • Acoustic Analysis of Reciprocating Compressors
   • Mechanical Analysis of Reciprocating Compressors
   • Summary of the API 618 Standard 5th edition
   • Optional analysis according API 618, 5th edition
   • Summary of allowable levels of the API 618, Design Approach 3, 5th edition
   • Summary ISO Standard 10816-8 (Field Surveys)
   • Case Study API 618 Pulsation & Vibration Analysis

6. Summary and conclusion