

## Nexo Solutions - Technical Training Seminars

### Filtration & Separations for Oil & Gas, Chemical and Petrochemical Industries

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Nexo Solutions offers a suite of technical training courses on Filtration & Separation Principles, Applications, Troubleshooting, and related aspects. All of our technical training seminars can be tailored to specific requirements, and delivered ON-SITE at a given plant or location. Alternatively, we also have OPEN technical trainings seminars in The Woodlands, Texas. The technical training seminars offered by Nexo Solutions are internationally recognized for their instruction on relevant and practical applications related to filtration and separation principles, systems designs process applications and equipment troubleshooting. The technical seminars are specifically developed for the Oil & Gas, Refinery, Gas Processing, Chemical, and Petrochemical industries. Numerous versions of the technical training seminars have been presented worldwide, from which many process engineers, operators, maintenance personnel, asset managers, and operational supervisors have benefitted. Many operating companies, engineering companies and supplier companies at all levels, routinely attend our various technical training seminars.



All materials and case studies covered in each technical training seminar are a direct result of the significant experience obtained during our extensive field, past and current projects. Each technical training seminar is formatted to maximize interaction between the presenter and attendees. The information presented in each training seminar is contained in a complete set of notes provided to each attendee.

I am certain that you will find each of our technical training seminars enjoyable, dynamic and highly instructive.

We hope to see you in the near future.

David Engel, Ph.D.  
Managing Director & Senior Engineer  
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#### Nexo Solutions

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## **Nexo Solutions, Technical Training Seminars**

### **Filtration & Separations for Oil & Gas, Chemical and Petrochemical Industries**

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#### **Who should attend:**

- Process Engineers
- Operations & Maintenance Personnel
- Managers & Supervisors
- Technical Specialists
- R&D Personnel
- Purchasing Personnel
- Engineering & Construction Personnel
- Suppliers
- Consultants

#### **Why you should attend:**

- Poor contamination control is the leading cause of process instability and losses
- Filtration and separation is often overlooked and poorly understood in many plants
- Proper knowledge of separation systems is critical to plant performance
- Lack of formal training across process industries leads to uninformed decision-making

#### **Benefits of attending:**

- Understand the technical and economic aspects of separations and contamination control
- Gain insight into engineering, design details, and operating efficiency of separation systems
- Network with peers and attain valuable exposure to real cases and on-site project analysis
- Become familiar with operational failures, causes/symptoms, and troubleshooting

#### **Participant companies in past seminars:**

- |                 |                   |                |
|-----------------|-------------------|----------------|
| • Exxon         | • Ecopetrol       | • PSI          |
| • DCP Midstream | • Rosedale        | • FTC          |
| • QEP           | • Pentair         | • Williams     |
| • Anadarko      | • Phase Process   | • W.L. Gore    |
| • BASF          | • Marathon        | • US Water     |
| • Shell         | • Energy Transfer | • Pilot-Thomas |
| • Cansolv       | • Country Mark    | • CDM          |

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## **Filtration & Separations for Oil & Gas, Chemical and Petrochemical Industries**

### **ON-SITE Technical Training Seminars Offerings**

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Nexo Solutions offers ON-SITE technical training courses in different Filtration & Separation subjects. The ON-SITE technical training courses are one 1-day (8 hours) or 2-day (16 hours) sessions. Additionally, a 2-day (16 hours) OPEN technical course is conducted once each year. A complete list of the technical training seminars are indicated below:

#### **ON-SITE 1-Day (8 hours) Technical Training Options**

TC-01: Filtration & Separation in Oil & Gas, Chemical & Petrochemical Industries: Basics

TC-02: Filtration & Separation in Oil & Gas, Chemical & Petrochemical Industries: Applications

TC-03: Filtration & Separation in Oil & Gas, Chemical & Petrochemical Industries: Troubleshooting

TC-04: Filtration & Separation in Amine Units and Sour Water Units for Refineries

TC-05: Filtration & Separation in Amine Units and Glycol Units for Gas Plants

TC-06: Contamination Removal in Compression Stations and Inlet Feed Gas to Process Units

NOTE: The 1-day (8 hours) ON-SITE technical seminars are designed with time optimization in mind. Each seminar includes the most important and critical information, and is delivered in a precise and concise way. Each technical training course includes a booklet with presentation slides (hard copy) for each attendee.

#### **ON-SITE 2-Day (16 hours) Technical Training Options**

TC-11: Filtration & Separation in Gas Processing Plants

TC-12: Filtration & Separation in LNG Plants

TC-13: Filtration & Separation in Refinery Operations

TC-14: Filtration & Separation in Chemical & Petrochemical Plants

Note: The 2-day (16 hours) ON-SITE courses are designed with detailed information in mind. Each course includes important and critical information, analyzed in depth and delivered in a more detailed way. Each technical training course includes a booklet with presentation slides (hard copy) for each attendee.

#### **Nexo Solutions**

## Filtration & Separations for Oil & Gas, Chemical and Petrochemical Industries

### OPEN 2-Day Technical Training Seminar

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## *Filtration & Separations Engineering, Applications and Troubleshooting Oil & Gas, Chemical and Petrochemical Industries*

### OPEN 2-DAY TECHNICAL TRAINING COURSE

**Date: September 27 & 28, 2016**      **Location: The Woodlands, Texas USA**  
**Research Forest Conference Center (Hyatt Place Hotel)**  
**1909 Research Forest Drive, The Woodlands, Texas 77380 – USA**

The OPEN technical training course includes daily lunch, snacks, beverages, and a Happy Hour networking opportunity. The course also includes a booklet with presentation slides (hard copy) for each attendee. The enrollment for the course is OPEN to anyone who wishes to attend.

### Covered Materials

Nexo Solutions technical training seminars cover a number of different aspects with respect to filtration & separations. Depending on the technical training seminar, most items indicated below are included.

- Introduction to Process Separations
- Filtration Principles
- Gas Filtration
- Liquid Filtration
- Filter Vessel Design
- Coalescing Principles
- Gas Coalescing
- Liquid Coalescing
- Inlet Separation
- Testing & Analysis
- Coalescer Vessel Design
- Adsorption and Activated Carbon
- Cyclones and Centrifuges
- Membrane Pre-Filtration
- Process Applications
- Problem Solving
- Vessel Sizing Simulator (Intellisys™)
- Troubleshooting
- Filtration & Separation Errors
- Real Cases

### Nexo Solutions

## Course Instructor

### David Engel, Ph.D.

Managing Director & Senior Engineer

David has more than 20 years of industrial experience in a variety of areas including chemical synthesis, corrosion resistant materials, sensors, light to energy conversion, security technology, conducting materials, filtration and separation technologies, analytical methods, chemical additives, and phase separation technologies.

David is the inventor in 17 United States Invention Patents and many World Invention Patents in



various areas of technology. David has also developed new businesses, engineering services, and technologies for Eastman Kodak, Eli Lilly, Porous Media, Pentair, General Electric, and Sulphur Experts. He has been a speaker in many technical conferences and presented a number of courses and technical training courses globally on a variety of technology and engineering subjects.

David has been in numerous on-site field projects at many worldwide locations (Americas, Europe and Middle East). Recently, David has specialized in process troubleshooting, process separation systems engineering, and contamination control methods for improving plant performance, efficiency, and reliability. David is Senior

Consultant and Co-Founder of Sulphur Experts, Filtration Division and Managing Director of **Nexo Solutions**. He holds a B.S. in Industrial Chemistry, a Ph.D. in Organic Chemistry, and is also 6-Sigma Certified.

### Appointments:

- Member of the American Chemical Society (ACS)
- Member of the Gas Processors Association (GPA)
- Member of the American Filtration and Separation Society (AFS)
- Member of the Editorial Board at Elsevier Publishing Company
- Member of the Board of Directors at Genesis BioHealth
- Member of the Board of Directors at Amine Filtration Company
- President of the American Filtration and Separation Society – Southwest Region
- Chairman of the American Filtration and Separation Society Houston Conference
- GLC Senior Consultant

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## Course Instructor

### Heath Burns, M.E.

Systems Leader & Senior Engineer

Heath has over 14 years of experience in the oil, gas and process industries with regards to filtration and separation technology. Heath has a well-rounded background ranging from manufacturing, R&D, pilot testing, engineering design and business development. Heath has



extensive field experience in solid/liquid, liquid/liquid and gas/liquid separations. Heath has worked extensively with chemical process plants and natural gas facilities troubleshooting fouling issues and determining the best technology for mitigation of contaminants. Heath has worked intimately in the field developing methods for evaluating filters, coalescers, and separators with the end results being determination of the actual effectiveness of the equipment evaluated.

He was the lead inventor in a United States Patent for the selective extraction of acids from a process gas and liquid. Heath has since adapted this technology to incorporate extraction of soluble contaminants from LPG/Amine treaters systems as well. These developments have led to significant size reductions in equipment and costs all while increasing process efficiencies. Heath Burns holds a Bachelor of Science in Mechanical Engineering from Texas A&M University.

### Experience:

Heath has over 14 years of experience in design engineering, R&D, business development/sales and process optimization in the oil, gas, chemical and process related industries.

- Extensive field experience in contamination analysis
- Qualifying the performance of various particle filters, gas/liquid coalescers, liquid/liquid coalescer and other separators.
- Optimization of existing separators
- Testing, design and implementation of separation systems to remove contaminants causing amine foaming and fouling
- Design, construction and operation of pilot studies from lab bench top to field trials.
- Sizing of filtration and coalescing systems

### Nexo Solutions

## Course Instructors Selected Papers & Presentations (2013 - 2015)

“Liquefied Petroleum Gas (LPG) Treating Throughput Improvement Using Amine Solvent Recovery Technologies”

**AFPM 2015, March 25, 2015**

Amine System Filtration: How to Maximize Benefits

**SOGAT 2015, March 27, 2015**

“The Seven Deadly Sins of Sour Water Stripping”

**AFPM 2014, March 27, 2014**

“Reducing Hydrocarbons in Sour Water Stripper Acid Gas”

**LRGCC 2014, February 24, 2014**

“Choose Optimal Feed Conditioning Strategies for Gas Processing”

**Gas Processing, February 1, 2014**

“Hydrocarbon Contamination in Amine Acid Gas”

**Sulphur, February 20, 2014**

“Reducing Hydrocarbons and Solids Contamination in Sour Water Strippers”

**Hydrocarbon Processing, August 1, 2013**

“Filtration and Separation in Sulfur Recovery”

**Chemical Engineering, April 1, 2013**

“Seven Deadly Sins of Filtration and Separation Systems in Gas Processing”

**GPA, April 1, 2013**

“Feed Conditioning Strategies for Gas Processing”

**SOGAT, March 1, 2013**

“Fouling Solutions - Is Suspended Solids Filtration the Right Answer?”

**Filtration News, September 1, 2013**

“Process Industries: Mitigating the Fouling Menace”

**Filtration + Separation Magazine, October 1, 2013**

“Strategies for Minimizing Hydrocarbon Contamination in Amine Acid Gas”

**Sulphur 2013, November 8, 2013**

“Troubleshooting Contamination in Gas Compression”

**Compressor Tech 2, November 1, 2013**

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## Additional Course Instructors & Support

**Scott Williams, Chemical Engineer**  
Process Engineer

**Jamie Eaton, Electrical Engineer**  
Staff Engineer

## Invited Guest Instructors

Open technical training courses often times will have invited guest speakers. Guest speakers along with the title of the paper are announced a few days prior to the course. Guest speakers are experts in their field of work. All guest speaker presentations discuss important and relevant aspects to filtration & separations. Guest speaker topics can range from business outlooks, safety, flow control, corrosion, fouling, and others.

## Others

Some technical training courses incorporate the use of the Intellisys™ simulation program for vessel design. The program is applied to filters, coalescers, and adsorption beds.

## Web-Based Technical Training Courses

Nexo Solution offers the flexibility of web-based courses made for certain technical trainings. Web-based technical training courses are either 1/2-day or 1-day sessions.

## Technical Training Customization

Nexo Solution technical training group customizes many of the technical training courses for specific needs or to provide focus in certain aspects. Please contact us for more information.

## Contact Information

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