



GOETZE VALVES NA HYDROGEN TRAINING

2-Day Hydrogen Seminar & Workshop

Aloft Hotel Charlotte Ballantyne



AGENDA DAY 1, October 15th, 2024

Time	Topics
08:30 – 10:00 am	<p>Hydrogen Basics</p> <ul style="list-style-type: none"> • Characteristics of hydrogen • Gas purity <p>Fluid System Components in Hydrogen Plants</p> <ul style="list-style-type: none"> • Hydrogen generation and storage • Hydrogen in fuel cells, hydrogen as a reducing agent in the chemical industry, steel production, desulfurization in the petrochemical industry, food industry, mobile sector, and many other applications
10:00 – 10:30 am	Coffee break
10:30 – 12:00 am	<p>Tubing, Flanges, Threads, and Fittings in Hydrogen Plants</p> <ul style="list-style-type: none"> • Material requirements • Corrosion - Hydrogen embrittlement • Cleaning requirements • General requirements for tubes (steel - stainless steel) • Fittings, threads, and flanges • Tube cutting and bending in hydrogen systems • Dimensioning of tubes - Permitted flow velocities
12:00 – 01:00 pm	Lunch break
01:00 – 02:30 pm	<p>Valves and Pressure Regulators in Hydrogen Systems</p> <ul style="list-style-type: none"> • Requirements for valves and pressure regulators in hydrogen systems • Material, lubricants, cleaning requirements • Design considerations for valves • Sizing and calculation of valves and pressure regulators • Hydrogen and Hydrogen/Natural Gas Mixtures
02:30 – 03:00 pm	Coffee break
03:00 – 04:30 pm	<p>Other Fluid System Components: Check valves - Deflagration safety devices Filters - Pressure transducers - Sensors Control valves - Coaxial valves - Butterfly valves - Safety valves – Solenoids</p> <p>Technically Permanently Leak-Proof Fluid System Components</p>
4:30 pm	End of day 1

AGENDA DAY 2, October 16th, 2024

Time	Topics
08:30 am – 04:30 pm	<p>Hydrogen Workshop</p> <p>Group work is encouraged during the workshop, fostering collaboration, idea exchange and shared problem-solving among participants.</p> <p>During the workshop, participants design and size a complete hydrogen supply system, including nitrogen purging.</p> <p>The following questions will be addressed during our workshop:</p> <ul style="list-style-type: none"> • Where should a check or safety valve be placed? • How to select the right fluid system components. • Where should O₂ and H₂ sensors be installed? • How to integrate a purging system?
	<p>Workshop Activity</p> <p>Level 1: Design and sizing of a hydrogen system from H₂ production to gas treatment and storage in a low-pressure tank.</p> <p>Level 2: Design and sizing of a high-pressure system from compression and gas distribution to high-pressure storage at 6000 psi.</p> <p>Level 3: Design and sizing of a pressure panel. Pressure reduction from 6000 psi to 360 psi.</p> <p>Level 4: Design and sizing of a nitrogen purging system.</p> <p>Level 5: Operation and safety.</p> <p>Level 6: Technically permanent leak tightness regarding operation and maintenance.</p>
	2 coffee breaks and 1 lunch break included
	Participants are required to bring a calculator/cell phone and a laptop/tablet