

HIGH-SPEED COMPRESSOR COURSE

Ariel, Clark, Gemini, Ingersoll Rand, Superior, & Worthington

Course Dates

- March 21–25, 2022 (Houston, TX)
- July 11–15, 2022 (Houston, TX)
- October 10–14, 2022 (Houston, TX)

Course Length

12-hour classroom + 20 hours of hands-on maintenance

Pricing

- Classroom only (12 hours) \$500 per person (15 student limit)
- Classroom + hands-on (32 hours) \$1,250 per person (6 student limit)

Prerequisites

None

Target Audience

Operators, mechanics, technicians, engineers, and maintenance/equipment specialists responsible for the safe day-to-day operation and care of high-speed, separable compressors

Goal

Knowledge & comprehension of the equipment components and their function, basic operation, and common maintenance practices used with the high-speed compressor and accessories.

Course Topics in Classroom
Time (hrs.)

1. Course Introduction & Pre-Exam (Instructor/student introductions, course objectives and agenda review, and pre-exam)	1
2. Product Overview (Layout, manuals, specifications, and cylinder numbering)	1
3. Major Components (Compressor connecting rod, piston rod, crosshead, distance piece, cylinder, piston, and head)	1
4. Compression Fundamentals (Sequence of Events, Pressure-Volume Graphs, Rod Load and Reversal, Safety, Standards/Codes, and Area Classification)	2
5. Frame and Running Gear Lubrication (Bearings – crankshaft and connecting rods, lube oil specifications, and pre-lube systems)	0.5
6. Compressor Force Feed Lubrication (Force feed lubrication basics, pump to point systems, divider block systems, and lubrication ancillary devices)	1
7. Compressor Rod Packing (Packing case, compression packing, and oil wiper packing)	1
8. Compressor Rings and Rider Bands	0.5
9. Compressor Valves and Capacity Control (Suction/discharge valve wear and repair, capacity control plugs and unloaders)	1
10. Compressor Performance (Reading and interpreting compressor loading “thumbnail” curves)	0.5
11. Compressor Troubleshooting (Diagnosis and Correction of Common Problems)	0.5
12. Recommended Maintenance Schedules and Service Tools	0.5
13. Q&A	0.5
14. Written Course Exam	1

Course Topics in Hands-On Training

Time (hrs.)

A. Compressor Valve (Removal, inspection, rebuild (optional), and reinstallation)	4
B. Force Feed Lubrication (Purging and testing, divider block replacement, force feed pump replacement)	4
C. Piston and Rod Maintenance (Head, Piston, Piston Rod, Packing Case, and Crosshead – removal, inspection, and installation)	8
D. Compressor Alignment and Rod Runout (Gas Path integrity inspection and basic procedure).	2
E. Frame and Crankshaft Alignment. (Soft foot, Bump Check, and Crankshaft Web Deflection (take readings and interpret findings)	2
F. OPTIONAL: Hands-On Competency Exam	1 per person