ADVANCED COMPRESSOR OPERATOR

Course Objectives:

The course is designed to give participants with some knowledge or experience with high pressure gas systems in troubleshooting and repair of compressors. This course takes a different approach as it is expanded to focus on management of the compressed air system as a whole, including all components that it consists of.

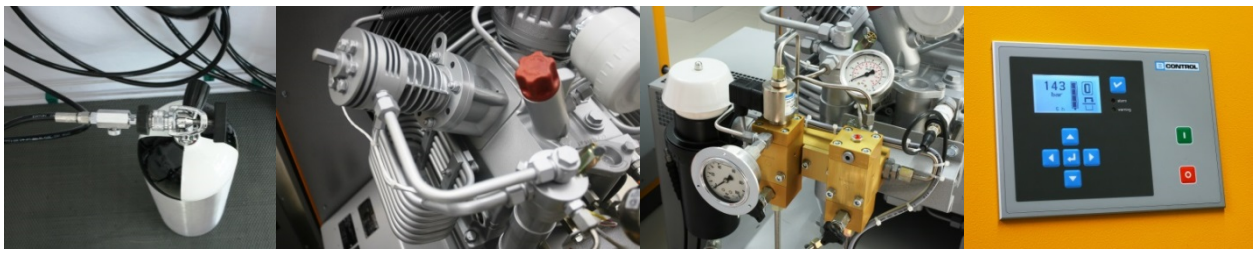
In the compressor operator course, basic principles have been presented. In the advanced course, participants have the opportunity to expand on the previously-gained knowledge and under supervision learn the more in depth skills of system design, maintenance and troubleshooting. The majority of the course will be spent on conducting diagnostic tests, stripping down a compressor, technical inspection of the components, rebuilding the compressor and commissioning of the refurbished unit, in other words, a hands-on experience. Extensive background knowledge on topics such as filtration, electricity and maintenance strategies on a variety of brands and models are also covered.

Upon successful completion of this course, students will be able service, repair and troubleshoot high pressure air compressors and be able to make informed decisions with regards to selection, design, purchase and maintenance of compressors and filling station as a whole. In-house certification will be presented at the end of the course.

Prerequisites: 18 years old and have successfully completed TDI Compressor Operator at Scuba Clinic

Duration: 4 days

Course fee: See pricelist



Theory Outline:

- Review of basic safety principles in working with compressors and compressed air
- Theory of gas compression and filtration systems.
- Design of air compressors.
- In depth review of single phase and 3-phase start-stop mechanisms.
- Theory behind troubleshooting, a practical approach.
- Maintenance planning and strategies

Practical Outline:

- Remove and replace protective guards.
- Remove and replace intercooler pipes.
- Remove and replace cylinder heads.
- Remove and replace cylinder barrels.
- Examine cylinder barrels for wear.
- Examine bearings for wear.
- Strip down and adjust safety valves – if allowed by the manufacturer -.
- Strip down and adjust PMV.
- Strip down and service Interstage condensate trap replace filter.
- Strip down and repack of filter tower / filter cartridge.
- Adjust high pressure oil Pump setting of Bauer final stage lubrication system.
- Setup and use of Bauer B-timer Automatic filter monitor.
- Use of interstage pressure gauges for fault finding.
- Test compressor to 330bars to confirm integrity and lack of leaks.
- Power consumption measurement – use of Voltmeter & clip on ammeter.
- Rpm measurement methods.
- Heat measurement of heads and intercooler functionality checks.
- 3-phase wiring basics – Changing rotation direction of 3-phase electric motor.
- 3-phase star-delta starter / 6 wire 3-phase motor basics. Adjusting Star-delta switch time.
- Petrol engine rpm regulator adjustment for correct rpm.
- Alignment of drive motor and fan belt adjustment
- Pumping efficiency tests.
- Compressor Log sheets use.
- Introduction of faults to the compressor and technician booby traps.
- EN12021 Air purity testing – preparation and test workshop following rebuild.