



| No. | Areas of Operation | Recommended Actions |
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| 1 | Customer interface | Establish a policy that customer cylinders must be checked prior to being filled, for condition and inspection status (including visual and hydrostatic inspections for valve and cylinder condition). |
| | | Establish a policy regarding partially filled cylinders that may contain any gas mixture. |
| | | Establish a policy regarding acceptance for filling or handling of cylinders containing oxygen or oxygen-enriched gas. |
| | | Inspections prior to filling should include: <ul style="list-style-type: none"> • Checking the date of the last hydrotest; • Checking the date of the last visual inspection; • Inspecting for any visible damage; • Hammer-testing steel cylinders (they should have a bell-like tone); • Verifying the cylinder code of construction, ensuring it is legal to fill it; • Verifying the rated fill pressure; and • Checking that the cylinder contains positive pressure prior to filling it. |
| | | Perform a gas-content analysis for any mixed gases. |
| | | Maintain a log of customer complaints (e.g., reports of odors, taste, over-filling, and any other concerns). |
| 2 | Air/gas quality | Establish a schedule for frequency of air/gas-quality testing. |
| | | Retain the testing certificates. |
| | | Display the current air/gas-quality testing certificate. |
| | | Retain the gas-analysis certificates for vendor-supplied cylinders (e.g., oxygen, helium, nitrogen). |
| | | Establish a policy for replacing filters and lubricants (including whether generic consumables and parts may be used instead of original equipment manufacturer [OEM] products). |
| | | Establish a policy to change filters per manufacturers' specifications; a color-change indicator; a filter pressure-drop indicator; or air-quality testing. |
| 3 | Cylinder handling | Establish instructions for cylinder handling, filling, and safe storage. |
| | | Secure cylinders upright, in vertical cylinder banks. |
| | | Log all cylinder fills, including the customer name, date, gas-content testing, etc., as applicable. |
| 4 | Compressor, booster, and filling areas | Establish daily start-up and shut-down checklists, including daily visual inspection of filling connections; whips; compressing equipment; and fuel, lubricant, and coolant levels. |
| | | Schedule regular inspections that include checking performance, leak-checking piping, and function-testing control and safety components. |
| | | Perform regular maintenance and servicing according to manufacturers' recommendations, based on running hours or time periods. |
| | | Schedule visual and hydrostatic inspection of all storage cylinders. |
| | | Establish a policy for service by a manufacturer-approved or other external service center and/or by in-house personnel. |
| | | Log all service and repairs performed on compressors, boosters, and pressurized gas equipment. |
| | | Retain all maintenance, service, and repair records. |
| | | Clean external surfaces on compressors, boosters, and motors. |
| | | Maintain oxygen cleanliness for oxygen or oxygen-enriched air compressors, booster pumps, piping, and all controls. |
| | | Maintain oxygen cleaning records. |

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| | Compressor, booster, and filling areas (cont.) | <p>Ensure that compressor belt guards remain in place.</p> <p>Regularly assess the compressor intake location for contaminant risks (e.g., CO, CO₂, odors, fumes, chemical vapors, smoke, car exhaust, cooking extraction exhaust, etc.).</p> <p>Regularly check that the gas-management area is well ventilated to prevent a buildup of heat.</p> <p>Regularly check that the gas-management area is clean and uncluttered (especially that there are no restrictions on ingress and egress).</p> <p>Regularly assess the compressing and filling areas for other risks (e.g., noise, unauthorized access, space, lighting, fire, etc.).</p> <p>Regularly inspect and test fire detectors, fire alarms, and fire extinguishing equipment and ensure that appropriate signs are in place.</p> <p>Ensure that signs about hazardous equipment, the operation of dangerous equipment, and restrictions on access are posted and easily visible.</p> <p>Establish a policy regarding appropriate, environmentally responsible disposal of compressor, gas-engine, and filter-system waste.</p> |
| 5. | Personnel safety | <p>Establish a policy regarding unattended filling stations (e.g., require operators to remain at filling stations throughout the filling process).</p> <p>Establish clear training and competency requirements for all compressor and filling operations. Keep all training certificates on file.</p> <p>Comply with OSHA (or comparable) requirements for pressurized equipment.</p> <p>Ensure that compressor and filling station operators are covered by workers compensation.</p> <p>Screen operators' hearing status upon hiring and at periodic intervals, to detect any subsequent hearing loss.</p> <p>Check/screen operators for fitness to work (including daily checks if there is any evidence of substance abuse, etc.).</p> <p>Provide operators with PPE (ear-protectors, safety glasses, and hard-toed shoes), together with training in its use.</p> <p>Post appropriate signage regarding the use of PPE.</p> <p>Monitor operators' compliance with PPE requirements.</p> |