

Daily Maintenance Checklist Expected Values

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This document was developed by [Build Health International](http://www.bhioxygen.org) to support global medical oxygen infrastructure planning, site preparation, operation, maintenance, and sustainability. Additional technical resources are available at www.bhioxygen.org.

The purpose of this document is to provide guidance on the expected values for oxygen plant daily maintenance checklists. Many of these values are manufacturer dependent and therefore, it is important that these values are confirmed with the manufacturer specifications.

Data Collection	Quick Numbers	Detailed Explanation
Temperature in PSA Plant Room or Container	<u>Varies</u> Plant Temp Range: _____	<ul style="list-style-type: none"> Use the space in “Quick Number” to record your manufacturer’s operating temperature range Compare the temperature in the plant room with the manufacturer’s operating temperature, especially if components show signs of overheating, such as frequently shutting down <i>Example: 0-40 °C (Meditech)</i>
Air Compressor Temperature (°C)	Manufacturer specific _____	<ul style="list-style-type: none"> Use the space in “Quick Number” to record your manufacturer’s expected air compressor temperature range Compare the daily air compressor temperature with the manual to confirm no overheating <i>Example: 75-93 °C (Kaeser)</i>
PDP Temperature (°C) Refrigerant dryer	Normal running temp: 3-5°C	<ul style="list-style-type: none"> A refrigerant dryer can run as low as 1-2°C without issues. It can run as high as 6°C without issues; anything higher should prompt immediate checks for issues. Depending on the natural humidity of the site, it may not be cause for alarm. Check specific manufacturer specifications before making any conclusions.
PDP Temperature (°C) Desiccant dryer	Normal running temp: 2-3°C	<ul style="list-style-type: none"> Desiccant dryers can run as low as -70 °C, but this draws unnecessary energy and is not needed. It can run as high as 6°C without issues; anything higher should prompt immediate checks for issues. Depending on the natural humidity of the site, it may not be cause for alarm. Check specific manufacturer specifications before making any conclusions.
Oxygen Purity (%)	90-96%	<ul style="list-style-type: none"> Most PSA plants produce 93 ± 3% purity due to the intrinsic nature of the technology. Higher than 90% is considered medical grade oxygen. Less than 85% must be investigated.
Air Compressor Running Hours	Varies	<ul style="list-style-type: none"> Running hours should be steadily increasing each day the oxygen plant is on and operating As a general rule, check the manual as you approach every increment of 500 and 1000 hours 2000, 4000, and 8000 hours are especially common maintenance milestones Every manufacturer has their own recommendation and schedule for when to perform regular maintenance, please refer to the manual of your specific device for instructions.
Oxygen Generator Running Hours	Varies	
Booster Compressor Running Hours	Varies	
Booster Compressor pressure gauge readings and temperature	Manufacturer specific _____ _____	<ul style="list-style-type: none"> Use the space in “Quick Number” to record your manufacturer’s machine operating parameters If you notice one stage (or several) with declining pressure over many days, there is a problem that must be fixed <i>Example: Bailian with 4 stages - Stage 1: 1.2-1.5 MPa Stage 2: 2.8-3.2 MPa Stage 3: 6.2-6.8 MPa Stage 4: 14-15 MPa Suction Temperature < 40°C, Exhaust Temperature < 160°C</i>
Number of cylinders filled & number of hours filling cylinders	Varies	<ul style="list-style-type: none"> This value is only meaningful if a standard size of cylinders (50L, 40L, 10L) is being filled By tracking number of cylinders filled and the number of hours for filling, you can watch for declining booster compressor performance