

JORDAIR – “RELIABILITY & SAFETY” – BAUER

SAFETY MEMO CSA Standard Z180.1-00

The evolution of the safe recharging SCBA breathing air cylinders has undergone a number of significant changes over the past decade. CSA developed a new standard in 2000 (CSA Standard Z180.1-00 Compressed Breathing Air and Systems) to reflect the change and to focus the attention of the industry on a comprehensive approach to safety. These changes include the recommendations of the current CSA standard that include two aspects to the new standard with a focus on safety issues:

1. The recommendation of CSA for service of breathing air systems by factory trained technicians,

Section 5.1 Compressed Breathing Air Systems, **“Compressed breathing air systems shall be designed, constructed, installed, commissioned, operated and maintained in accordance with the manufacturer’s instructions”.**

This is a key and highly important recommendation since independent non-certified technicians carry out some high-pressure compressor service that may not meet the current CSA standard. Jordair recommends that in order to comply with CSA only factory authorized service technicians should be employed in the service of high pressure breathing air compressors. The adoption of this practice by operators of high pressure breathing air systems will ensure the highest level of operator safety.

In the past decade the compressed air SCBA recharge pressure has been elevated from 2216 PSIG to 4500 PSIG. This higher recharging pressure for the SCBA cylinders has caused the air storage systems to increase from 2400 PSIG to 6000 PSIG. This in turn has required the development of higher-pressure breathing air compressors. These high-pressure systems require a high standard of QC program with correct component selection and engineered design.

The kinetic energy in a 4500 PSIG SCBA and a 6000 PSIG compressor system is many times higher than in the former systems. The higher pressure of 4500 PSIG filling and 6000 PSIG storage pressures represent some serious consideration to the safety aspects of this transition. The extreme high pressure requires a highly trained technician both in the assembly and the service of compressor systems operating at this level of pressure.

Jordair is the exclusive Canadian Agent for the Sales, Assembly and Service of breathing air systems with Bauer compressor blocks. Jordair, as an ISO 9001:2008 certified company, follows the recommendations of CSA and has adopted a responsible approach to ensure the highest degree of safety in all Jordair breathing air systems.

The following Jordair Compressors Inc. policy and factory requirements for authorized service technicians are now in place and become effective May 1st 2002.

- Only Jordair Compressors Inc. factory trained service technicians holding current training certificates are authorized by Jordair to work on Jordair, Bauer or JMAR compressor systems operating in Canada.
 - Any unauthorized service of Jordair/Bauer breathing air systems will result in a void of any and all warranty.
 - Any compressor system using a Bauer block and assembled in Canada other than by Jordair Compressors Inc. is void of any and all Jordair and Bauer Kompressoren GmbH. Factory warranty.
2. The implementation of factory recommended service intervals,

Clause 5.7 **“The installation, inspection, testing, operation, maintenance, and repair of components of a compressed breathing air system shall be performed as specified by the manufacturers of the components of the compressed breathing air system.”**

The proper service of these ultra-high pressure systems will result in operator safety and the highest quality of breathing air. In order to achieve this goal the compressor system should be checked and serviced at regular intervals as specified by CSA in the latest standard.

Clause 7.1 General, **“Air compressors shall be installed, maintained, and operated in accordance with the manufacturer’s instructions.”**

- All Jordair/Bauer/JMAR compressor systems producing breathing air are to have the purification cartridges changed every 6-month even if the life span of the cartridge in operating hours has not been reached.
- Only original Jordair or Bauer purification cartridges will be used in the Jordair/Bauer/JMAR breathing air systems.
- The compressor system will be checked once a year for pressure leaks and the minimum service will include an oil change.

Jordair Compressor Inc. is the Canadian market leader in the production of Breathing Air Compressor Systems and complies with the latest CSA standard and offers the following:

- Jordair became the first breathing air compressor manufacture in Canada to be accredited by the Standards Council of Canada to ISO 9002-1994. The certificate No. 97-544 was issued in February 1998.
- Jordair received ISO-9001-1994 accreditation in July 2000.
- Jordair received ISO-9001-2000 accreditation in April 2003.
- Jordair has been certified by CSA for more than 10 years, CSA registration No. LN 77799
- Jordair offer customer service by a network of distributors employing factory trained service technicians in all major centres across Canada.
- Jordair registers all pressure component designs with the Provincial Boilers branch and receives CRN# verifying design registry.

The following recommendations are made by Jordair to ensure the highest level of operator safety in the purchase, operation and service of a high pressure breathing air compressor system for the recharging SCBA cylinders.

1. Purchase only factory authorized and approved replacement parts for breathing air compressors, air storage and SCBA recharging systems.
2. Hire only factory authorized service technicians for breathing air compressor systems who hold current certificates of competence directly from the factory.
3. Ensure the breathing air system purchased is CSA certified and the breathing air purification system will meet or exceed the current breathing air quality set out in the latest CSA Breathing Air Standard (insert standard).
4. Purchase compressors and systems that the factory have certificate of evidence that all pressure components used in the breathing air system are registered with a CRN (Canadian Registration Number) in compliance with the requirements of the Provincial Boiler and Pressure Vessels Department. The list of the pressure component CRN numbers should accompany and be part of the bid document requirements.
5. Purchase breathing air compressor systems from suppliers who have the experience and safety record and comply with the recommendations of CSA and the Provincial Boiler and Pressure vessels Department for each Province in Canada.
6. While not required by law Jordair is NFPA 1901 compliant and has complied with and past the third party testing of the D-series SCBA cylinder recharging stations.

7. Ensure that the breathing air compressor purchased has a Canadian Registration Numbers (CRN) in compliance with the Provincial Boiler and Pressure Vessels Department for the pressure tubing, pressure fittings, gauges, high pressure final oil and water separator, filter systems, check valves, priority valves, final safety relief valve and automatic drain systems.
8. All replacement pressure components must be replaced with certified CRN registered parts.
9. Follow the factory manual in all aspects of operation and service of the equipment and never operate a breathing air system above the pressure intended.

The adopting of the nine items listed above will ensure the perspective purchaser or operator of a high pressure breathing air system that the equipment will be safe to use in the application of recharging of SCBA cylinders of 4500 PSIG or to the rated final pressure of the system.

Note: No compressor system should be placed in service and operated to pressures above the lowest rated component that will be in contact with the process air stream.