



AEROSPACE STANDARD

AS1248™**REV. B**

Issued 1973-05
Revised 2020-05
Reaffirmed 2025-09

Superseding AS1248A

(R) Minimum Standard for Gaseous Oxygen Pressure Reducers

RATIONALE

Recent certification requirements have defined requirements of the oxygen systems more precisely with an effect on the design requirements for oxygen pressure reducers. This update makes the designer aware about these requirements: as the need for Oxygen Hazard Analysis, recommended test methods for oxygen intrinsic hazards verification (pressure shock tests and promoted ignition tests) and requirements for pressure factors (max operating pressure, proof, burst and transient pressures). In addition, this version considers actual references and editorial changes.

AS1248B has been reaffirmed to comply with the SAE Five-Year Review policy.

TABLE OF CONTENTS

1.	SCOPE.....	3
2.	REFERENCES.....	3
2.1	Applicable Documents	3
2.1.1	SAE Publications.....	3
2.1.2	U.S. Government Publications.....	3
2.1.3	ASTM Publications.....	3
2.1.4	Other Publications.....	4
2.1.5	Airworthiness Requirements	4
2.2	Reference Documents	4
2.3	Definitions	4
3.	TECHNICAL REQUIREMENTS.....	4
3.1	General Requirements	4
3.1.1	Materials and Workmanship	4
3.1.2	Operating Media.....	5
3.1.3	Component Cleaning and Assembly Cleanliness.....	5
3.1.4	Lubricants.....	5
3.1.5	Interchangeability	5
3.2	Design and Construction Requirements	5
3.2.1	Mounting	5
3.2.2	Wrench Flats	5
3.2.3	Connections	5
3.2.4	Filtration	6
3.2.5	Low Pressure Relief Valve	6
3.2.6	High Pressure Relief Valve	6
3.2.7	Bonding	6
3.3	Performance Requirements	6
4.	QUALITY ASSURANCE PROVISIONS.....	6

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2025 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or used for text and data mining, AI training, or similar technologies, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE AS1248B

For more information on this standard, visit
<https://www.sae.org/standards/content/AS1248B/>

Documents

Standard, visit Sharing Hub

4.1	Classification and Scope	6
4.1.1	Qualification Testing	6
4.1.2	Acceptance Test	6
4.2	Test Media	6
4.3	Test Conditions	7
4.4	Test Performance	7
4.4.1	Examination of Product	7
4.4.2	Leakage	7
4.4.3	Performance Testing	7
4.4.4	Temperatures	7
4.4.5	Endurance and Vibration Testing	8
4.4.6	Pressure Strength	8
4.5	Storage and Operating Environment Exposure Testing	8
4.6	Oxygen Compatibility Testing	9
4.6.1	Oxygen Pressure shock Tests	9
4.6.2	Promoted Ignition Tests	9
5.	IDENTIFICATION	9
6.	PACKAGING AND DELIVERY	9
6.1	Contamination Control	9
6.2	Final Packaging	9
7.	NOTES	9
7.1	Revision Indicator	9

1. SCOPE

This standard applies to pressure reducers for gaseous breathing oxygen systems and for all performance profiles without regard to particular inlet or outlet pressures. Attention is given, however, to construction requirements for reducers with maximum supply pressures to 2250 psig (155 bar) and reduced pressures of 50 to 150 psig (3.4 to 10.5 bar).

2. REFERENCES

2.1 APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AIR825/13	Guide for Evaluating Combustion Hazards in Aircraft Oxygen Systems
AIR4071	Lubricants for Oxygen Use
AIR5742	Packaging and Transportation of Oxygen Equipment
ARP1176	Oxygen System and Component Cleaning
AS861	Minimum General Standards for Oxygen Systems
AS4395	Fitting End, Flared, Tube Connection, Design Standard
AS5202	Port or Fitting End, Internal Straight Thread, Design Standard
AS8010	Aviator's Breathing Oxygen Purity Standard
AS33514	Fitting End, Standard Dimensions for Flareless Tube Connection and Gasket Seal
AS71051	Pipe Threads, Taper, Aeronautical National Form, Symbol ANPT - Design and Inspection Standard

2.1.2 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

MIL-PRF-27401	Propellant Pressurizing Agent, Nitrogen
MIL-STD-810	Environmental Test Methods
MIL-PRF-27210	Oxygen, Aviator's Breathing Liquid and Gas

2.1.3 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM G63	Evaluating Non-Metals for Oxygen Service
ASTM G88	Designing Systems for Oxygen Service