

# ISO 10083 :2006-7 (E)

## Oxygen concentrator supply systems for use with medical gas pipeline systems

---

### Contents

Page

Foreword.....	v
Introduction .....	vi
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions.....	2
4 General requirements.....	4
4.1 Safety and continuity of supply .....	4
4.2* Alternative constructions .....	5
4.3 Materials .....	5
4.4 System design.....	6
4.5 Specifications for oxygen-enriched air .....	6
4.6 Cylinder filling .....	7
5 Sources of supply.....	7
5.1 General.....	7
5.2 Primary source of supply.....	8
5.3 Secondary source of supply.....	8
5.4 Reserve source of supply .....	9
5.5 Sources of supply with cylinders.....	9
5.6 Location of oxygen concentrator supply systems.....	9
6 Requirements for components.....	10
6.1 Oxygen concentrator unit .....	10
6.2 Oxygen-enriched air storage vessels .....	10
6.3 Oxygen analysers .....	11
6.4 Pressure-relief valves.....	11
6.5 Shut-off valves .....	11
6.6 Sample port .....	12
6.7 Pressure regulators .....	12
7 Monitoring and alarm systems.....	12
7.1 General.....	12
7.2 Monitoring and alarm signals .....	12
7.3 Operating alarms .....	12
7.4 Information signals.....	13
8 Marking .....	13
9 Installation .....	13
9.1 General.....	13
9.2 Electrical systems.....	13
10 Testing, commissioning and certification.....	13
10.1 General.....	13
10.2 Tests and procedures.....	14
10.3 Specific tests.....	14
10.4 Commissioning and certification .....	16
11 Information to be supplied by the manufacturer.....	16
11.1 Instructions for installation .....	16
11.2 Instructions for use .....	16
11.3 Instructions for preventive maintenance .....	17
11.4 Operational management information.....	17

11.5	“As installed” drawings.....	17
11.6	Electrical schematics.....	17
11.7	Disclosure by the manufacturer .....	17
12	Implementation of use of oxygen-enriched air .....	17
12.1	Acceptance of oxygen-enriched air .....	17
12.2	Timing.....	17
12.3	Mixing of oxygen-enriched air and oxygen .....	17
12.4	Calibration of medical equipment .....	17
12.5	Labelling.....	18
12.6	Compliance with ISO 7396-1 .....	18
Annex A	(informative) Schematic representations of oxygen concentrator supply systems .....	19
Annex B	(informative) General guidelines for location of supply systems .....	27
Annex C	(informative) Guidelines for emergency procedures .....	29
Annex D	(informative) Procedure for testing and commissioning .....	31
Annex E	(informative) Typical forms for certification of an oxygen concentrator supply system .....	32
Annex F	(informative) Recommended minimum requirements for preventive maintenance .....	35
Annex G	(informative) Recommendations for installation .....	37
Annex H	(informative) Risk and risk management.....	38
Annex I	(informative) Recommendations for sizing and capacity.....	39
Annex J	(informative) Recommendations for filling cylinders with oxygen-enriched air.....	40
Annex K	(informative) Rationale .....	41
Bibliography	.....	42