
Dentistry — Plant area equipment —
Part 2:
Compressor systems

Art dentaire — Installation de la zone technique —
Partie 2: Systèmes de compression



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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ISO/TS 22595-2 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 6, *Dental equipment*.

ISO/TS 22595 consists of the following parts, under the general title *Dentistry — Plant area equipment*:

- *Part 1: Suction systems*
- *Part 2: Compressor systems*

Introduction

This Technical Specification applies to dental compressor equipment and their working conditions, and all other machines installed in the plant area.

The air compressor equipment consists of the compressor unit, compressed-air line, fittings and shut-off valve.

Ancillary equipment may include air conditioning, heating, hot water and equipment that may be installed in the plant area.

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Dentistry — Plant area equipment —

Part 2: Compressor systems

1 Scope

This Technical Specification applies to compressor units for dental air and specifies quality requirements for dental air, fittings, pipe lines and valves in the plant area, used to source compressed air for the dental units, dental instruments and technical dental lab equipment.

This Technical Specification gives recommended guidelines for performance as well as test procedures for compressor units for dental air with at least a compressor motor set including compressor head, air receiver, air dryer system, condensed water tap, pressure switch, valves, pipes, fittings and quality requirements for dental air.

The technical specifications of the compressor unit are limited to the compressed-air main line connection point.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1942, *Dentistry — Vocabulary*

ISO 3746, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane*

ISO 7494-1, *Dentistry — Dental units — Part 1: General requirements and test methods*

ISO 7494-2:2003, *Dentistry — Dental units — Part 2: Water and air supply*

ISO 8573-1, *Compressed air — Part 1: Contaminants and purity classes*

ISO 8573-2, *Compressed air — Part 2: Test methods for oil aerosol content*

ISO 8573-3, *Compressed air — Part 3: Test methods for measurement of humidity*

ISO 9687, *Dental equipment — Graphical symbols*

ISO/TS 22595-1, *Dentistry — Plant area equipment — Part 1: Suction systems*

IEC 60204-1, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 60335-1, *Household and similar electrical appliances — Safety — Part 1: General requirements*

IEC 60364-6, *Low-voltage electrical installations — Part 6: Verification*

IEC 60364-7-710, *Electrical installations of buildings — Part 7-710: Requirements for special installations or locations — Medical locations*

IEC 60601-1:2005, *Medical electrical equipment — Part 1: General requirements for basic safety and essential performance*

IEC 61010-1, *Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements*

IEC 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60601-1, ISO 1942, ISO 7494-1, ISO 7494-2, ISO/TS 22595-1 and the following apply.

3.1
air dryer system
device designed to reduce the humidity of compressed dental air and which is part of the compressor unit

3.2
air filter
device designed to remove solid particles from the compressed air

3.3
air receiver
device designed to store compressed air, which is a pressure vessel and part of the compressor unit

3.4
bacterial filter
device designed to minimize the content of bacteria in the dental air

3.5
compressed-air main line
pipeline through which compressed air from the compressor unit is carried via the compressed-air main line connection point to all consuming dental devices

3.6
compressed-air main line connection point
location where the air main line is connected to the pipes of all consuming dental devices

3.7
compressor motor set
device consisting of one or more electrically driven compressor heads

3.8
compressor unit
electrically driven device that creates dental air for dental surgeries and dental laboratory applications and which consists of one or more compressor motor sets

3.9
compressor unit connection point
location where the compressed-air main line is connected to the compressor unit

3.10
condensed water tap
device designed to drain off condensed water from the air receiver