Australian Standard®

DENTAL EQUIPMENT
SUCTION SYSTEMS

Part 1—CENTRAL SYSTEMS

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Australian Dental Association

Australian Dental Standards Laboratory

Australian Dental Trade Association

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Department of Defence

Victorian Employers Federation

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PREFACE

This standard was prepared by the Association's Committee on Dental Instruments and Equipment under the authority of the Dental Materials and Equipment Standards Committee. It is based on BS 5185—1975, Dental Vacuum Pipeline Services.

The standard applies to central suction service pipeline services where the pumps are usually sited outside the surgeries and are not part of the surgery equipment. However, the standard may be applied, where appropriate, to installations where the pumps may be mounted in the surgeries. The service is applicable to one or more chairs. Mobile systems, where the pump is integral with the surgery equipment and serves only one chair, are presently being given consideration and will constitute Part 2 of the standard.

The standard relates to dry line, semi-dry and wet line suction systems. Unlike BS 5185, wet and semi-dry line systems are included because of their continued use in this country.

It is recognized that on commissioning, the performance of surgery equipment will be satisfactory, but due to subsequent use, blockage of lines, filters, etc would occur, particularly if adequate maintenance and cleaning is not carried out by dental staff. A more simple method of test (see Appendix D) than that specified elsewhere in this standard is suggested in order that the dentist and/or the dentist's staff can ascertain the performance of the high volume flow suction cannula (Clause 2.1) at any time. However, this simple method of test is not to be used by the installation contractor for assessing compliance with this standard.

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Australian Standard
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DENTAL EQUIPMENT—SUCTION SYSTEMS

PART 1—CENTRAL SYSTEMS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard sets out basic requirements for central dental suction pipeline services (high and low flow suction) for dry, wet and semi-dry line systems in dental surgeries and hospitals. Mobile systems are excluded.

1.2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1044 Limits of Electromagnetic Interference for Electrical Appliances and Equipment

AS 1259 Sound Level Meters

AS 1324 Air Filters for Use in Air Conditioning and General Ventilation

AS 3000 SAA Wiring Rules

AS 3200 Electromedical Equipment—General Requirements

BS 381C Specification for Colours for Identification, Coding and Special Purposes

BS 3928 Method for Sodium Flame Test for Air Filters (Other than for Air Supply to I.C. Engines and Compressors)

BS 4196 Guide to the Selection of Methods of Measuring Noise Emitted by Machinery

1.3 CLASSIFICATION. Dental central suction systems shall be classified as follows:

(a) *Dry (line) suction system.* This system removes solids and liquids within the surgery, leaving the pipeline from the separator to the suction pump dry (see Figs 1.1 and 1.2).

(b) *Semi-dry (line) suction system.* This system removes solids from one or more number of surgeries at a central collection point adjacent to the surgery(s). The pipeline from the separator to the suction pump is wet (see Figs 1.2 and 1.3).

(c) *Wet (line) suction system.* This system discharges to waste solids less than 600 μm mesh size and liquids through a 'wet' pipeline via a suction pump (see Fig. 1.4).

1.4 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.4.1 Suction cannula—device through which air, liquid and debris are sucked from the mouth and which is connected to the induction tubing.

There are two main types, as follows:

(a) High volume air flow cannula for the removal of water particles and suspended debris.

(b) Low volume air flow cannula for the drainage and ejection of small volumes of liquid, generally saliva from the floor of the mouth.

1.4.2 High volume air flow—the minimum dry air flow drawn into the high volume air flow suction cannula.

1.4.3 Low volume air flow—the maximum dry air flow drawn into the low volume air flow suction cannula.

1.4.4 Induction tubing—flexible tubes which connect the suction cannulae to the induction points.

1.4.5 Induction tube holder—bracket having clips which securely hold the induction tubing when it is not in use. The holder is often incorporated with the induction manifold but it may be separate. It usually contains the controls by which the flow to each individual tube is isolated when the tube is in the induction tube holder.

1.4.6 Induction manifold—means for connecting the induction points to a common pipeline.

1.4.7 Induction point—point at which the induction tubing is connected to the suction system. It may be at a manifold with more than one induction point on it.

1.4.8 Manifold strainer—strainer associated with a manifold to remove particles.

1.4.9 Induction separator pipe (dry line system)—pipe connecting the induction point to the manifold separator unit. Air, liquid and debris flow through this pipe.

1.4.10 Separator strainer—strainer associated with the separator, to remove particles from the effluent. It is usually a supplementary strainer.

1.4.11 Separator—device near the dental suction (vacuum) service point which separates the liquid from air, liquid being removed through a waste pipe to the drainage system and the air into the dental suction service point.

1.4.12 Fail-safe liquid overflow device—device to prevent overflow of liquid from the separator into the dry line.

1.4.13 Separator suction service point pipeline—pipe connecting the separator to the dental suction service point.

1.4.14 Dental suction (vacuum) service point—the isolating valve connecting the surgery equipment to the dental suction service pipeline.

1.4.15 Suction service pipeline.

1.4.15.1 *Dry and wet pipeline suction systems*—pipe connecting the dental suction service point to the plant room.