

Medical gas pipeline systems

Part 4: Terminal units for anaesthetic gas scavenging systems

The European Standard EN 737-4:1998 has the status of a
British Standard

ICS 11.040.10

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National foreword

This British Standard is the English language version of EN 737-4:1998. Together with BS EN 737-2:1998 and clause 111 of BS EN 740:1998, it supersedes BS 6834:1987, which will be withdrawn in due course.

The UK participation in its preparation was entrusted by Technical Committee CH/44, Anaesthetic machines, breathing attachments, medical gas pipeline systems and hose assemblies, to Subcommittee CH/44/2, Medical gas supply systems, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 14, an inside back cover and a back cover.

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English version

Medical gas pipeline systems — Part 4: Terminal units for anaesthetic gas scavenging systems

Systèmes de distribution de gaz médicaux — Partie
4: Prises murales pour systèmes d'évacuation des
gaz d'anesthésie

Rohrleitungssysteme für medizinische Gase —
Teil 4: Entnahmestellen für
Anästhesiegas-Fortleitungssysteme

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CEN

European Committee for Standardization
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 215, Respiratory and anaesthetic equipment, of which the Secretariat is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1998, and conflicting national standards shall be withdrawn at the latest by July 1998.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

EN 737 consists of the following parts under the general title *Medical gas pipeline systems*.

- Part 1: *Terminal units for compressed medical gases and vacuum*
- Part 2: *Anaesthetic gas scavenging disposal systems*
- Part 3: *Pipelines for compressed medical gases and vacuum*
- Part 5: *Oxygen concentrators*
- Part 6: *Dimensions of probes for terminal units for compressed medical gases and vacuum*.

Annexes A and B are informative.

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

Anaesthetic gas scavenging system (AGSS) terminal units are the points in an AGSS where the operator makes connections and disconnections for the disposal of medical gases and anaesthetic vapours from anaesthetic machines or other items of medical equipment, and where a wrong connection may create a hazard to the life of a patient.

It is important that terminal units and their components are designed, manufactured, installed and maintained in such a way as to meet the basic requirements specified in this part of this European Standard.

This part of this European Standard pays particular attention to:

- suitability of materials;
- type-specificity;
- dimensions of probes and type-specific connection points;
- cleanliness;
- testing;
- identification;
- information supplied.

In any healthcare facility, it is strongly recommended that terminal units of only one type are used for any particular service.

This part of this European Standard specifies the provision of information for the installation and testing of terminal units. Testing after installation is critical to patient safety and it is essential that terminal units are not used until full testing in accordance with prEN 737-2 has been completed.

Rationales for some of the requirements of this part of this European Standard are given in annex B. These requirements are indicated by the letter “R” after the clause number.

1 Scope

This part of this European Standard specifies requirements and dimensions for terminal units intended for use in anaesthetic gas scavenging systems specified in prEN 737-2 for the scavenging of medical gases and anaesthetic vapours.

It is intended especially to ensure the type-specific assembly of terminal units and to prevent their interchange between different services.

This part of this European Standard also specifies requirements and dimensions for the mating counterpart (probe) of the type-specific connection point which is part of the terminal unit.

This part of this European Standard does not specify the ranges of nominal operating pressures for terminal units (see prEN 737-2).

This part of this European Standard specifies two types of terminal units which are non-interchangeable, for use where the power device is upstream or downstream of the terminal unit. Figure 1 shows the use of the two types of terminal unit.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

prEN 737-2, *Medical gas pipeline systems — Part 2: Anaesthetic gas scavenging disposal systems*
EN 1441, *Medical devices — Risk analysis*
ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

3 Definitions

For the purposes of this part of this European Standard, the following definitions apply.

3.1

AGSS Type 1 terminal unit

connection point between the receiving system and disposal system at which an operator makes connections and disconnections

3.2

AGSS Type 2 terminal unit

connection point between the power device or the disposal hose and the remainder of the disposal system at which an operator makes connections and disconnections

3.3

anaesthetic gas scavenging system; AGSS

system which is connected to the exhaust port(s) of an anaesthetic workstation, or which is integrated into an anaesthetic workstation, for the purpose of conveying expired and/or excess anaesthetic gases to an appropriate place of discharge

NOTE Functionally, an AGSS comprises three different parts, a transfer system, a receiving system and a disposal system. These three functionally discrete parts may be either separate or sequentially combined in part or in total. In addition, one or more parts of an AGSS may be sequentially combined with a breathing system to include the transfer system or transfer and receiving system.

3.4

disposal hose

that part of an AGSS which transfers expired and/or excess gases from the power device to the probe of an AGSS Type 2 terminal unit

3.5

disposal system

means by which the expired and/or excess anaesthetic gases are conveyed from the receiving system to an appropriate place of discharge

NOTE A place of discharge may be, e.g. the exterior of a building or a non-recirculating exhaust ventilation system.

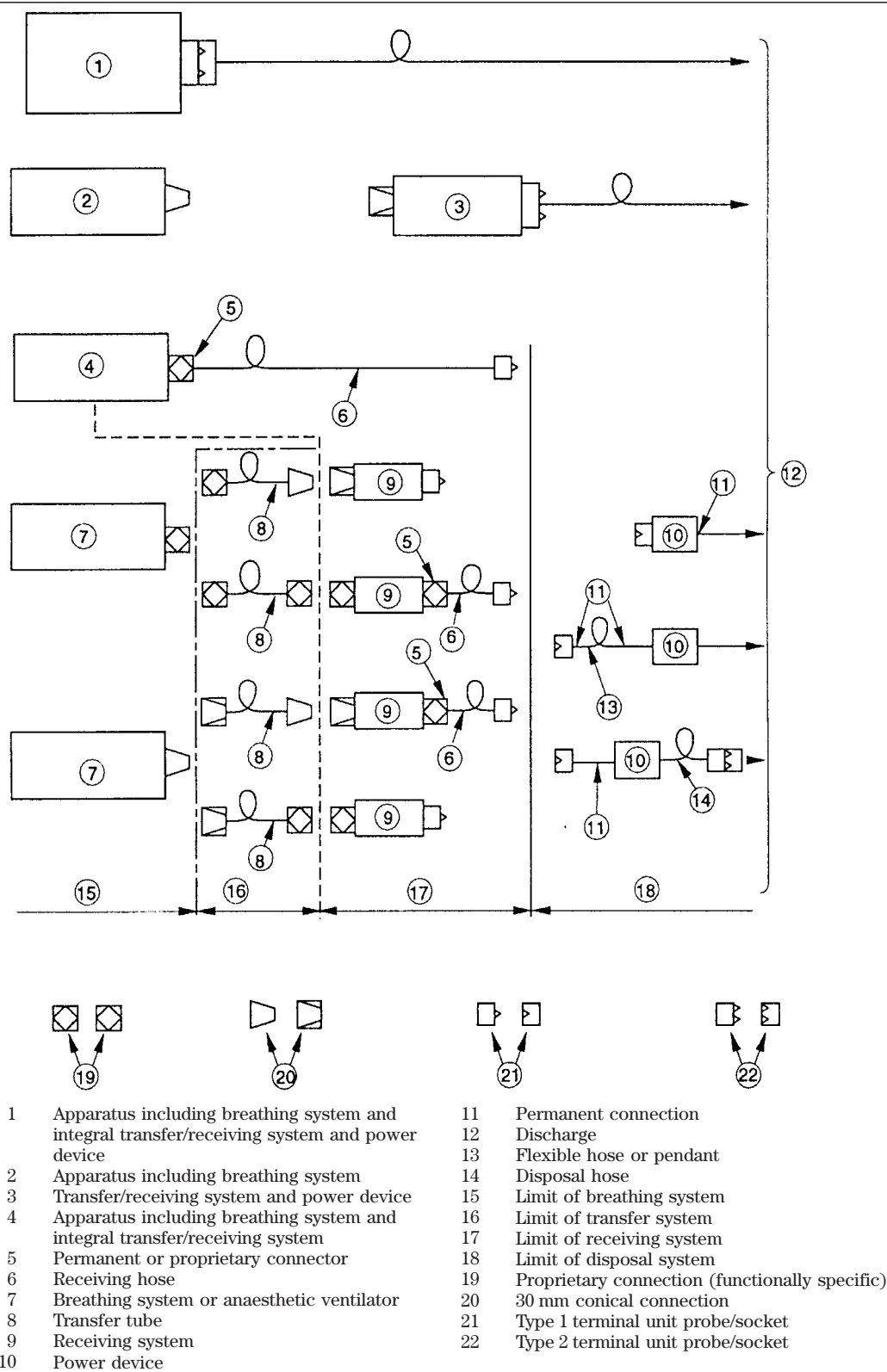


Figure 1 — Schematic diagram of typical anaesthetic gas scavenging systems