

Specification for
Probes (quick connectors) for
use with medical gas pipeline
systems

ICS 11.040.10

Confirmed
January 2010

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Sector Board for Health and Environment (H/-) to Technical Committee CH/44, upon which the following bodies were represented:

- Association of Anaesthetists of Great Britain and Ireland
- Association of British Health-care Industries
- British Anaesthetic & Respiratory Equipment Manufacturers Association
- Department of Health — NHS Estates
- Department of Health — Medical Devices Agency

The following bodies were also represented in the drafting of the standard, through sub-committees and panels:

- Institute of Healthcare Engineering and Estate Management
- Safety Equipment Association

This British Standard, having been prepared under the direction of the Health and Environment Sector Board, was published under the authority of the Standards Board and comes into effect on 15 September 1998

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First published 1978
Second edition 1984
Third edition 1998

The following BSI references relate to the work on this standard:
Committee reference: CH/44
Draft for comment 81/52757 DC
81/52755 DC

ISBN 0 580 29539 7

Amendments issued since publication

Amd. No.	Date	Text affected
10458	May 1999	Revised Figure 2
13101	June 2001	Indicated by a sideline

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Foreword

This edition of this British Standard has been prepared under the direction of the Health and Environment Sector Board. Together with BS EN 737-1:1998 and BS EN 739:1998, it supersedes BS 5682:1984, which is withdrawn.

BS 5682:1984 specified requirements for construction and installation of terminal units, hoses, hose assemblies and connectors used with pipeline systems for medical gases and vacuum. Separate European Standards have been prepared for these types of equipment, and are now published and adopted as British Standards as follows:

BS EN 737-1:1998, *Medical gas pipeline systems — Terminal units for compressed gases and vacuum*.

BS EN 739:1998, *Low-pressure hose assemblies for use with medical gases*.

prEN 737-6, *Medical gas pipeline systems — Dimensions of probes for terminal units for compressed gases and vacuum*, is in course of preparation but is not likely to be completed in the near future. When it is published, its DOW (i.e., the date by which conflicting national standards are to be withdrawn) should be set at least a decade later on, and consequently, this edition of BS 5682 has been prepared to maintain the technical requirements for probes specified in the previous edition in effect, until the DOW of EN 737-6.

No technical changes have been made, and this edition of BS 5682 has been prepared by deleting from the previous edition material that has been superseded by BS EN 737-1:1998 and BS EN 739:1998.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

Sideline in this document indicates the most recent changes by amendment.

1 Scope

This British Standard specifies requirements for probes (quick connectors) used with pipeline systems for medical gases, including air at 400 kPa for respiratory purposes and at 700 kPa and above for use as a power source, and for vacuum.

This British Standard does not apply to components used for non-clinical purposes, components within medical equipment or on the patient side of the flowmeter, vacuum connections to medical equipment, or connections to pneumatic power tools.

NOTE Annex A provides information on the use of probes conforming to this British Standard in existing terminal units. Annex B gives recommendations for probe materials.

2 Normative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS EN 739:1998, *Low-pressure hose assemblies for use with medical gases*.

BS EN 850:1997, *Transportable gas cylinders — Pin index, yoke-type valve outlet connections for medical use*.

3 Terms and definitions

For the purposes of this British Standard, the following definitions apply.

3.1

hose

flexible pipe designed for use at pipeline distribution pressure

3.2

hose insert

the part of a probe pushed into and secured within the bore (lumen) of a hose

NOTE Hose inserts are also known as hose tails or hose spigots.

3.3

medical equipment

equipment to which a medical gas pipeline system, operating at pipeline distribution pressure, may be connected

NOTE Medical equipment includes anaesthetic machines, anaesthetic ventilators and respirable gas mixers.

3.4

probe

male component designed for acceptance by, and retention in the socket assembly of, its own service only

NOTE 1 Non-interchangeability of probes is achieved by differentiation of the indexing collar.

NOTE 2 Probes are also known as quick connectors.

3.5

direct probe

probe either incorporating the nut and nipple of a NIST connector as integral parts, or directly coupled to an item of medical equipment forming a single functional unit not intended to be dismantled by the user

3.6

remote probe

probe connected to an item of medical equipment by means of an intermediate hose, with the hose insert an integral part of the probe

4 General design

4.1 Gauges for checking probe dimensions shall conform to Table 1 and Figure 1.

4.2 The general design and dimensions of probes shall conform to Table 2 and Figure 2 as appropriate. There shall be no projections greater than diameter *C* up to 46 mm from the tip of the probe.

4.3 Remote probes shall be provided with hose inserts to suit the appropriate hose as specified in BS EN 739.

NOTE To facilitate insertion of the probe into the terminal unit, the probe may be set at an angle to the hose insert.

4.4 If the hose insert is angled (see note to 4.3), the locating slot in the indexing collar of the probe shall be set in the same plane as the hose insert, as shown in Figure 3, and shall have the dimensions shown in Figure 2c).

4.5 Direct probes shall be either directly coupled to an item of medical equipment to form a single functional unit that is not intended to be dismantled by the user, or shall incorporate the nut and nipple of the NIST connector appropriate to the service.

NOTE The coupling between direct probes and medical equipment should permit access to the mechanism for releasing the probes (see Figure 4).