INTERNATIONAL STANDARD ISO 3889

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Milk and milk products — Determination of fat content — Mojonnier-type fat extraction flasks

Lait et produits laitiers — Détermination de la teneur en matière grasse — Fioles d'extraction, type Mojonnier

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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3889 was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the Member Bodies in June 1975.

It has been approved by the Member Bodies of the following countries :

Australia	Ghana	Poland
Austria	India	Portugal
Belgium	Iran	Romania
Bulgaria	Ireland	South Africa, Rep. of
Canada	Israel	Spain
Czechoslovakia	Mexico	Turkey
France	Netherlands	United Kingdom
Germany	New Zealand	Yugoslavia

No Member Body expressed disapproval of the document.

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Milk and milk products — Determination of fat content — Mojonnier-type fat extraction flasks

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the characteristics of Mojonnier-type fat extraction flasks for use in gravimetric methods for the determination of fat in milk and milk products (for example, by the methods described in ISO/R 1211, ISO 1735, ISO/R 1736, ISO/R 1737, ISO 1854, ISO 2450 or ISO 5543). The flasks are designed to enable a supernatant solvent layer to be decanted almost completely from an underlying aqueous layer.

2 REFERENCES

ISO/R 1211, *Milk — Determination of fat content (Reference method).*

ISO 1735, *Cheese and processed cheese products — Determination of fat content (Reference method).*

ISO/R 1736, *Dried milk — Determination of fat content (Reference method).*

ISO/R 1737, *Evaporated milk and sweetened condensed milk — Determination of fat content (Reference method).*

ISO 1854, *Whey cheese — Determination of fat content (Reference method).*

ISO 2450, *Cream — Determination of fat content (Reference method).*

ISO 4803, *Laboratory glassware — Borosilicate glass tubing.*[1)]

ISO 5543, *Caseins and caseinates — Determination of fat content (Reference method).*[1)]

3 MATERIAL

The flasks shall be made from clear borosilicate glass 1,4 ± 0,2 mm in thickness and as free as possible from visible defects.

NOTE — The glass tubing described in ISO 4803 is suitable.

4 CONSTRUCTION

The join in the glass of the stem shall be as free as possible from striations, and its plane shall be positioned perpendicular to the axis of the stem, so that during use of the flask the interface between the aqueous and solvent layers is not obscured.

NOTE — Experience has shown that it is preferable for the join to be nearer to the lower bulb than to the upper bulb.

5 FORM

5.1 The figure illustrates three permissible forms of flask (forms A, B and C) each complying with the dimensional requirements of clause 6 and known to be suitable. Variants of these forms will also comply with the requirements of this International Standard provided that the flasks meet the requirements of 5.2 and clauses 3, 4 and 6.

5.2 The neck of the flask shall have either a pouring rim or a pouring spout and shall be circular in cross-section to allow tight closure with a stopper.

NOTE — Flasks with a spherical lower bulb (forms B and C) are particularly suitable for direct heating over a flame (for example as described in ISO 1735).

6 DIMENSIONS

6.1 General

The dimensions of the flasks shall comply with the requirements listed in table 1 for form A, B, or C (as appropriate).

NOTE — These requirements have been chosen to allow the use of glass tubing complying with ISO 4803. The tolerances are sufficient to allow the manufacture of flasks that can be accommodated in the various types of centrifuge commonly used to spin these flasks. Some centrifuge buckets, however, will not accommodate flasks whose upper or lower bulb external diameter exceeds 36,5 mm.

6.2 Capacity of lower bulb and stem

The capacity of the lower bulb and stem (see table 1) shall be determined by the maximum volume of liquid contained in the flask when the axis of the upper bulb is horizontal and the neck inclined downward.

6.3 Guidance for manufacturers

The dimensions in table 2 are in common use and are included in this International Standard only as guidance to manufacturers.

1) At present at the stage of draft.

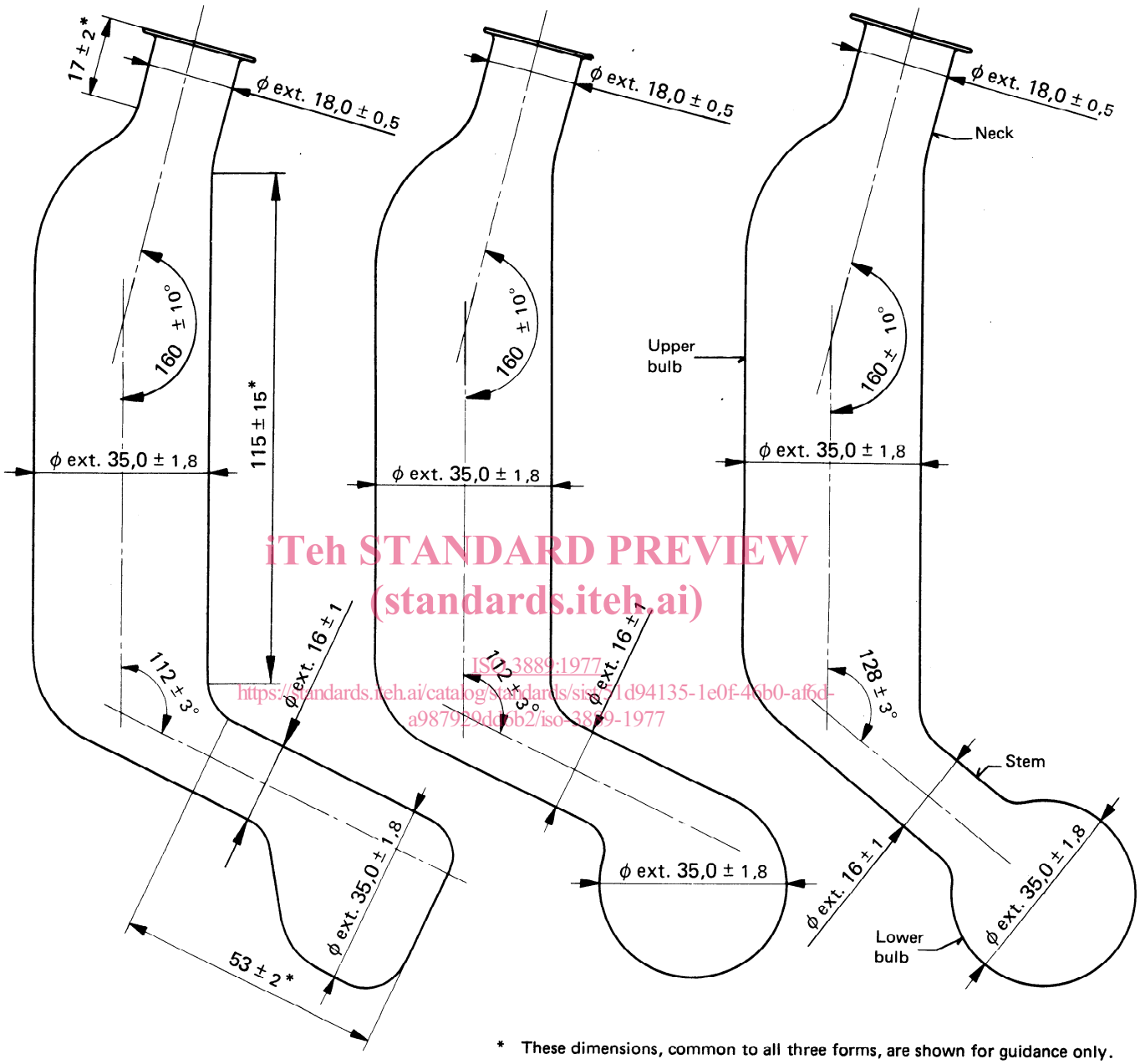
TABLE 1 — **Dimensional requirements**

Item	Forms A and B	Form C
Lower bulb		
diameter (external)	35,0 ± 1,8 mm	35,0 ± 1,8 mm
Lower bulb and stem		
capacity	24 ± 2 ml	24 ± 2 ml
Stem		
diameter (external)	16 ± 1 mm	16 ± 1 mm
Upper bulb		
diameter (external)	35,0 ± 1,8 mm	35,0 ± 1,8 mm
Neck		
diameter (external)	18,0 ± 0,5 mm	18,0 ± 0,5 mm
Angles		
between lower bulb and upper bulb	112 ± 3°	128 ± 3°
between upper bulb and neck	160 ± 10°	160 ± 10°
Overall length (measured parallel to the axis of the upper bulb)	185 ± 15 mm	185 ± 15 mm

TABLE 2 — **Guidance on additional dimensions**

Item	Forms A and B	Form C
Lower bulb and stem		
length	53 ± 2 mm	53 ± 2 mm
Upper bulb		
length	115 ± 15 mm	115 ± 15 mm
capacity (i.e. the difference between the capacity of the lower bulb and stem (see 6.2) and the total capacity of the stoppered flask)	100 ± 10 ml	100 ± 10 ml
Neck		
length	17 ± 2 mm	17 ± 2 mm

Linear dimensions in millimetres



* These dimensions, common to all three forms, are shown for guidance only.

Form A **Form B** **Form C**

Overall length : 185 ± 15

FIGURE — **Mojonnier-type fat extraction flasks : Three alternative forms**

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