

# Milk and milk products — Specification of Mojonnier-type fat extraction flasks

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## National foreword

This British Standard was published by BSI. It is the UK implementation of ISO 3889:2006. It supersedes BS 5522:1977 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AW/5, Chemical analysis of milk and milk products.

A list of organizations represented on AW/5 can be obtained on request to its secretary.

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**Milk and milk products — Specification  
of Mojonner-type fat extraction flasks**

*Lait et produits laitiers — Spécifications des fioles d'extraction  
de la matière grasse, type Mojonner*



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## Foreword

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This edition of ISO 3889|IDF 219 cancels and replaces ISO 3889:1977, of which it constitutes a minor revision.

## Foreword

**IDF (the International Dairy Federation)** is a worldwide federation of the dairy sector with a National Committee in every member country. Every National Committee has the right to be represented on the IDF Standing Committees carrying out the technical work. IDF collaborates with ISO in the development of standard methods of analysis and sampling for milk and milk products.

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# Milk and milk products — Specification of Mojonnier-type fat extraction flasks

## 1 Scope

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. The flasks are designed to enable a supernatant solvent layer to be decanted almost completely from an underlying aqueous layer.

NOTE The flasks are suitable for use with the methods described in ISO 1211, ISO 1735, ISO 1736, ISO 1737, ISO 1854, ISO 2450 and ISO 5543.

## 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 4803, *Laboratory glassware — Borosilicate glass tubing*

## 3 Material

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

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.

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** Figure 1 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 downwards.

### 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.

**Table 1 — Dimensional requirements**

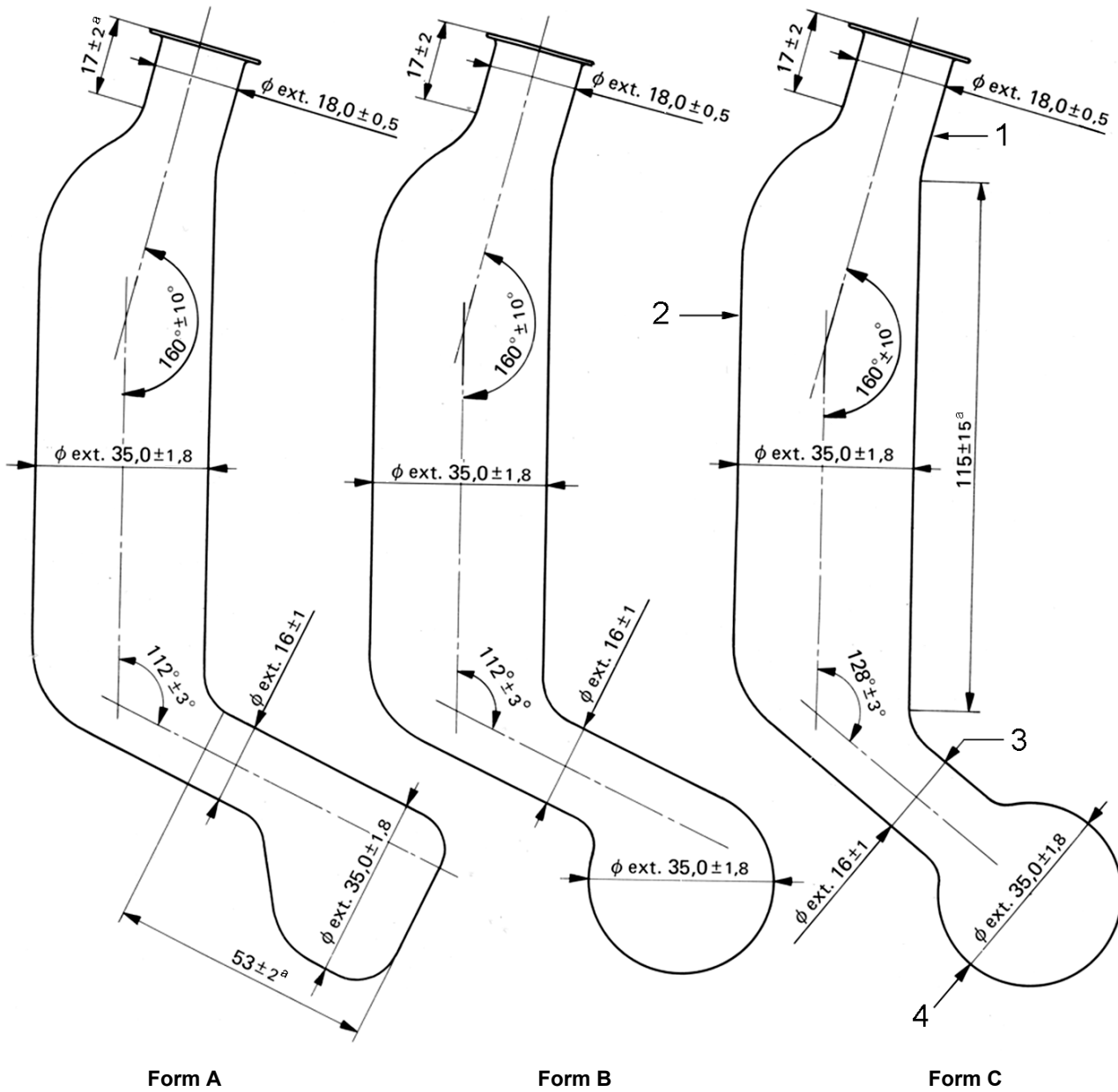
Item	Forms A and B	Form C
<i>Lower bulb</i> diameter (external)	35,0 mm ± 1,8 mm	35,0 mm ± 1,8 mm
<i>Lower bulb and stem</i> capacity	24 ml ± 2 ml	24 ml ± 2 ml
<i>Stem</i> diameter (external)	16 mm ± 1 mm	16 mm ± 1 mm
<i>Upper bulb</i> diameter (external)	35,0 mm ± 1,8 mm	35,0 mm ± 1,8 mm
<i>Neck</i>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



Table 2 — Guidance on additional dimensions

Item	Forms A and B	Form C
<i>Lower bulb and stem</i> length	53 mm ± 2 mm	53 mm ± 2 mm
<i>Upper bulb</i> — length	115 mm ± 15 mm	115 mm ± 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 ml ± 10 ml	100 ml ± 10 ml
<i>Neck</i> length	17 mm ± 2 mm	17 mm ± 2 mm

Linear dimensions in millimetres



**Key**

- 1 neck
- 2 upper bulb
- 3 stem
- 4 lower bulb

<sup>a</sup> These dimensions, common to all three forms, are shown for guidance only.

NOTE Overall length is 185 mm ± 15 mm.

**Figure 1 — Mojonnier-type fat extraction flasks: Three alternative forms**

## Bibliography

- [1] ISO 1211, *Milk — Determination of fat content — Gravimetric method (Reference method)*
- [2] ISO 1735|IDF 5, *Cheese and processed cheese products — Determination of fat content — Gravimetric method (Reference method)*
- [3] ISO 1736, *Dried milk and dried milk products — Determination of fat content — Gravimetric method (Reference method)*
- [4] ISO 1737, *Evaporated milk and sweetened condensed milk — Determination of fat content — Gravimetric method (Reference method)*
- [5] ISO 1854, *Whey cheese — Determination of fat content — Gravimetric method (Reference method)*
- [6] ISO 2450, *Cream — Determination of fat content — Gravimetric method (Reference method)*
- [7] ISO 5543, *Caseins and caseinates — Determination of fat content — Gravimetric method (Reference method)*

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